

DOCUMENT RESUME

ED 216 465

EC 142 414

TITLE Science and Health Education Perspectives on the Handicapped. A Curriculum to Foster Understanding of People with Disabilities.

INSTITUTION City Univ. of New York, N.Y. Hunter Coll.

SPONS AGENCY New York State Education Dept. Albany. Office for the Education of Children with Handicapping Conditions.

REPORT NO NYSED-81-9057

PUB DATE Apr 81

NOTE 218p.; For related documents, see EC 142 413-415. Prepared by the Special Education Development Center at Hunter College.

AVAILABLE FROM New York State Education Department Publication Sales Desk, Room 169, Education Building Annex, Albany, NY 12234 (no price quoted).

EDRS PRICE MF01/PC09 Plus Postage.

DESCRIPTORS Cerebral Palsy; Curriculum Guides; *Disabilities; Epilepsy; Family Life Education; *Health Education; Hearing Impairments; High Schools; Junior High Schools; Lesson Plans; Manual Communication; Marriage; Neurological Impairments; Physical Disabilities; *Science Education; Secondary Education; *Secondary School Science; Sensory Aids; Student Attitudes; Vision; Visual Impairments

ABSTRACT

Intended to extend the existing science and health education curriculum at junior and senior high school levels, the curriculum presents four mini-units on specific disabilities. The first section provides lesson plans about hearing impairments, and includes four lesson plans listing themes, objectives, and discussion guidelines for such topics as causes and effects of hearing impairments, manual communication, and myths and facts about hearing impairments. A mini-unit on visual impairment contains four lessons on topics including the visual process, different types of visual impairment, and aids and adaptive techniques for the visually impaired. The third mini-unit, on nervous system disorders, presents lessons on such topics as physical problems arising from nervous system disorders, epilepsy, cerebral palsy, and spina bifida, and other spinal chord disorders. Scoliosis is the subject of a fourth section. A final section is devoted to love, marriage, and parenthood for people with physical disabilities. (CL)

 * Reproductions supplied by EDRS are the best that can be made *
 * from the original document. *

ED216465

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

This document has been reproduced as
received from the person or organization
originating it.

Minor changes have been made to improve
reproduction quality.

- Points of view or opinions stated in this docu-
ment do not necessarily represent official NIE
position or policy.

A CURRICULUM TO FOSTER
UNDERSTANDING OF PEOPLE WITH DISABILITIES

SCIENCE AND HEALTH EDUCATION PERSPECTIVES ON THE HANDICAPPED

The University of the State of New York
THE STATE EDUCATION DEPARTMENT
Office for Education of Children
with Handicapping Conditions
Albany, New York 12234

April 1981

"PERMISSION TO REPRODUCE THIS
MATERIAL HAS BEEN GRANTED BY

Jan Miller

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)."

EC142414

THE UNIVERSITY OF THE STATE OF NEW YORK

Regents of The University (with years when terms expire)

1988	Willard A. Genrich, LL.B., L.H.D., LL.D., Litt.D., D.C.S., D.C.L. Chancellor	Buffalo
1981	J. Edward Meyer, B.A., LL.B. Vice Chancellor	Chappaqua
1986	Kenneth B. Clark, A.B., M.S., Ph.D., LL.D., L.H.D., D.Sc. ..	Hastings on Hudson
1983	Harold E. Newcomb, B.A.	Owego
1982	Emlyn I. Griffith, A.B., J.D.	Rome
1983	Mary Alice Kendall, B.S.	Rochester
1984	Jorge L. Batista, B.A., J.D., LL.D.	Bronx
1986	Laura Bradley Chodos, B.A., M.A.	Vischer Ferry
1987	Martin C. Barell, B.A., I.A., LL.B.	Kings Point
1984	Louise P. Matteoni, B.A., M.A., Ph.D.	Bayside
1987	R. Carlos Carballada, B.S.	Arcade
1981	Floyd S. Linton, A.B., M.A., M.P.A., D.C.L.	Miller Place
1981	Salvatore J. Sclafani, B.S., M.D.	Staten Island

President of The University and Commissioner of Education
Gordon M. Ambach

Executive Deputy Commissioner of Education
Joseph J. Blaney

Deputy Commissioner for Elementary, Secondary and Continuing Education
Robert R. Spillane

Assistant Commissioner for Education of Children with Handicapping Conditions
Louis Grumet

Director, Division of Development Support Services
Richard G. Hehir

Chief, Bureau of Program Development
Lawrence C. Gloeckler

Acknowledgements

The development of this curriculum was supported by a grant from the New York State Education Department, Bureau of Program Development, to The Special Education Development Center at Hunter College, a project of The Center for Advanced Study in Education, City University of New York. These materials were reviewed by staff from the Office of General Education and Curricular Services and the Office of Educational Finance, Management and School Services of the New York State Education Department.

Project Staff

Shirley Cohen, Project Director
Nancy Koehler

Project Support Staff

Robert W. Martin
David Litwak
Jean Bain
D'Ahlborn Slater

Draft Curriculum Staff

Anne L. Corn
Estelle Glasser
Iris Martinez
Avis Nash
Claire Pasternack
Elizabeth Pieper
Dorothy J. Sievers
Myra-Taff Watson

General Advisory Panel

Barbara Baskin-----State University of New York at Stonybrook
Donald Eisenberg-----NYC Board of Education, Division of Special Education
Larry Feldman-----NYC Board of Education, Division of Special Education
Sylvia Fishman-----Hunter College of The City University of New York
Samuel Fried-----NYC Board of Education, Div. of Curriculum & Instruction
Ronald Lenkowsky-----Horizon School for Perceptual Development
Meyer Lieman-----NYC Board of Education, Division of Special Education
Marsha Lupi-----Hunter College of The City University of New York
Betty Maloney-----The Industrial Home for the Blind
Robert Mastruzzi-----John F. Kennedy High School, NYC Board of Education
Albert Post-----NYC Board of Education, Div. of Curriculum & Instruction
Judith Rutberg-----Hunter College of The City University of New York
Rita Sator-----New York State Education Department, Bureau of General
Education Curriculum Development
Edith Wolf-----NYC Board of Education, Division of Special Education
Allen Zelon-----Edward R. Murrow High School, NYC Board of Education

Teacher Advisory Panel

Joan Belilos
Patricia Cook
Estelle Glasser
Jack LaRock
Sophie Mencher
Elliot Salow
Alta Waldau

Field Test Participants

District 22

Ralph T. Brande, Superintendent

Marine Park Junior High School 278

Pearl Newman, Principal

Warren Hirsch, Assistant Principal
and Project Liaison

District 27

Marvin Aaron, Superintendent

Rockaway Beach Junior High School 180

Alexander J. Metzgar, Principal

Burton Radish, Assistant Principal
and Project Liaison

John F. Kennedy High School

Robert P. Mastruzzi, Principal

Steven Gutman, Assistant Principal
and Project Liaison

Edward R. Murrow High School

Saul Bruckner, Principal

Allen H. Zelon, Special Education
Coordinator and Project Liaison

The field test version of this curriculum was also reviewed by 11 young adults with disabilities. We wish to thank them for their assistance.

Table of Contents

	Page
I. Introduction	1
II. Hearing Impairment	3
III. Visual Impairment	78
IV. Disorders of the Nervous System	121
V. Scoliosis: A Disorder of the Skeletal System	158
VI. Love, Marriage and Parenthood	169

Introduction*

This guide was designed to supplement, expand or enrich the existing curriculum in health education and science at junior and senior high schools levels. The focus of this expansion is the study of disabilities and the people who have them.

It was not until the middle 70's that persons with handicapping conditions began to receive the recognition and rights to which they were entitled as human beings and as citizens. Today, children and young persons with disabilities are increasingly living and contributing to the mainstream, in schools and in communities. We can no longer deny and ignore them.

Health education deals with the functioning of people. It encompasses the physical, affective and social. It deals with body systems, attitudes, interpersonal relations, and general behavior. Science is an organized body of knowledge about the physical world, including people. Selected areas of science, such as biology and physiology, focus considerably on structure and function in human beings. People with disabilities make up over 10% of the total population. Yet if one studies existing curricula in science and health education it becomes apparent that the study of disabilities and the people who have them is being given only scant and cursory attention in these subject areas.

It is the purpose of this curriculum guide to show how health education and science can include an adequate examination of disabilities and the disabled in the content of existing curricula. The mini-units of which this curriculum consists have been designed to fit in with existing foci of study within the two subject areas. Specific references to the larger context

*The use of this guide is to be preceded by the teacher orientation activities detailed in the Staff Orientation Manual.

into which these mini-units may be set, or points of attachment, are cited in the information to teachers given for each mini-unit.

A question may arise as to why health education and science were not treated in separate guides. Basically the reason for this is the considerable commonality of subject matter between health education and science in terms of those areas of science where the study of disabilities could have been appropriately integrated. Thus, while some lessons lend themselves more to health education and others more to science, most of the lessons and mini-units would be appropriate in both areas.

Some teachers may question whether units about disabilities should be used in classes which contain pupils with disabilities. The general answer to this question is "yes." We do not help disabled individuals by treating their disabilities as taboo topics. This only perpetuates misunderstanding and exclusion. However, the teacher must be sensitive to the particular disabled individuals in his/her classes. The teacher should take steps to avoid undue stress for any of her pupils. Such steps may include leaving out selected activities or even lessons. The teacher should never, however, assume that the study of disabilities will be stressful to disabled pupils. Some pupils will welcome such study and will be happy to serve as resource people in any lessons where they have relevant experiences or skills.

The enclosed lesson plans include discussion guides in which questions and statements are provided for teachers. You may choose to use them verbatim or only refer to them for guidance. They are meant to be suggestive and helpful but not in any way limiting.

HEARING IMPAIRMENT

prepared by:*

Shirley Cohen
and
Myra-Taft Watson
with assistance from
Nancy Koehler

We wish to acknowledge the contribution of Sr. Rosemary Gaffney who reviewed the first draft of this mini-unit and made many helpful suggestions.

This mini-unit may be used as an expansion of the Sensory Perception Substrand of the New York State Education Department Health Curriculum. This substrand, which is taught in grades 7-9, is part of Strand I: Physical Health.

The lessons in this mini-unit may also be used to expand the New York State Education Department recommended science curriculum on junior high school level. One of the areas of study included in the recommended curriculum is Living Systems: Human Systems. The study of the senses is included in this area, under the larger topic of the nervous system. This mini-unit may also be used as an expansion of the New York State General Biology (non-Regents) Curriculum given in the 10th grade. Unit 2 of the state guide for this curriculum is called "Systems of the Body." This unit can appropriately include lessons from the mini-unit which follows.

Lesson IV of this unit, which deals with myths about hearing impaired persons, should be considered a central lesson for health education classes studying the topic of hearing impairment. Science teachers may choose to use only the first three lessons, if they must limit the number of class sessions allotted to this unit.

The information on hearing impairment which you should know before beginning to teach this unit is contained in the fact sheets. In preparing to teach this unit it is recommended that you first read the fact sheets carefully, and then examine the lesson guides. Additional resources particularly appropriate for teacher preparation are given on the following page. A complete list of resources for students and teachers may be found at the end of the unit. It is strongly recommended that you send for the free pamphlets from the Better Hearing Institute included on the list. This literature can serve as a beginning reference file on hearing impairment for your classes.

While this unit is organized into four lessons, five sessions may be needed to implement all of the activities in it.

Resources on Hearing Impairment for the Teacher

Biographies

Spradley, T. S. and Spradley, J. P. Deaf Like Me.
New York: Random House, 1978.

This is a beautiful story of parents striving to find the best way to help their deaf child learn to understand the world and find a way to communicate with the people in her life. It illuminates the basic issues involved in fostering maximum development in the deaf.

Wright, D. Deafness. New York: Stein and Day, 1975. (paper)

This is the autobiography of an author who has been deaf since the age of seven. It is a beautifully written, poetic account of the experience of deafness.

Pamphlet

Hearing Loss: Hope Through Research. Bethesda:
National Institute of Health, 1977.

(Single copies may be obtained free by writing to:
Office of Scientific and Health Reports, NICDS, National
Institute of Health, Bethesda, MD 20014.)

Lesson I

Theme: Causes and effects of hearing impairments.

Objectives:

- .Students will begin to consider what it means to be hearing impaired.
- .Students will be able to describe the process of hearing.
- .Students will be able to describe the major types and causes of hearing impairments.

Introducing the Lesson

Call the class to order. Ask the questions which follow, but speak extremely softly when doing so. "What do you think it means to have a hearing loss? What is the experience like?" Call on students who do not respond. Some will ask you to repeat the question. Do so, but again in a very soft voice. When most of the students know the question you asked, either because they were close to you and heard it or because they read your lips or because another pupil repeated it, ask the students why you used such a soft voice? Some of the students will probably understand that you were helping them to experience part of what it is like to be a hearing impaired individual, which was the question you asked them to answer. Now address the students again. This time ask them: "Do you know anyone who has a hearing impairment?," but this time mouth the

question without any sound. Some of the students may be able to read your lips but most will not be able to do so. Call on several students. When the question has finally been pieced together, or when the frustration tolerance of the class is beginning to wear thin, use your normal voice level to ask the students how they felt during this experience. Students may say that they became angry, lost interest, were upset, or didn't understand. Conclude with a statement that: "Many persons with hearing impairments feel the same way you did when they try to function in school, at work or in other everyday ways in the hearing world."

Discussion Guide

Teacher Statements and questions

1. Let's go back to the questions I asked earlier. What is it like to have a hearing impairment? In what ways would your everyday functioning be different?

Notes to the Teacher

Relevant student responses might include the following:

You might only be able to understand people when you can see their lips moving. Thus you would not be able to "hear" what people say when you are at a distance or when your back is turned. Telephone conversation may not be possible. Movies and television may be only partially comprehensible. A hearing impaired person's speech may be unclear, making for less ease in communication with salesmen, storekeepers, waitresses, etc.

2. How many of you know someone who has a hearing impairment? How is his/her functioning affected? Is this individual a child, teenager or older adult?

The points to be drawn from the students here are: (1) Hearing impairments are common. (2) Hearing impairments are especially common in older persons.

You might want to ask the students how many have grandparents who have hearing losses, and how many have grandparents without hearing losses. The number of grandparents with hearing losses may well equal (or exceed) those without them.

3. There are about 14 million people in the United States with a hearing loss. Almost two million of these people have no functional hearing. They cannot hear well enough to understand speech. These people are the deaf. We are going to learn about how people become hearing impaired. In order to do so, we first need to understand how people hear.

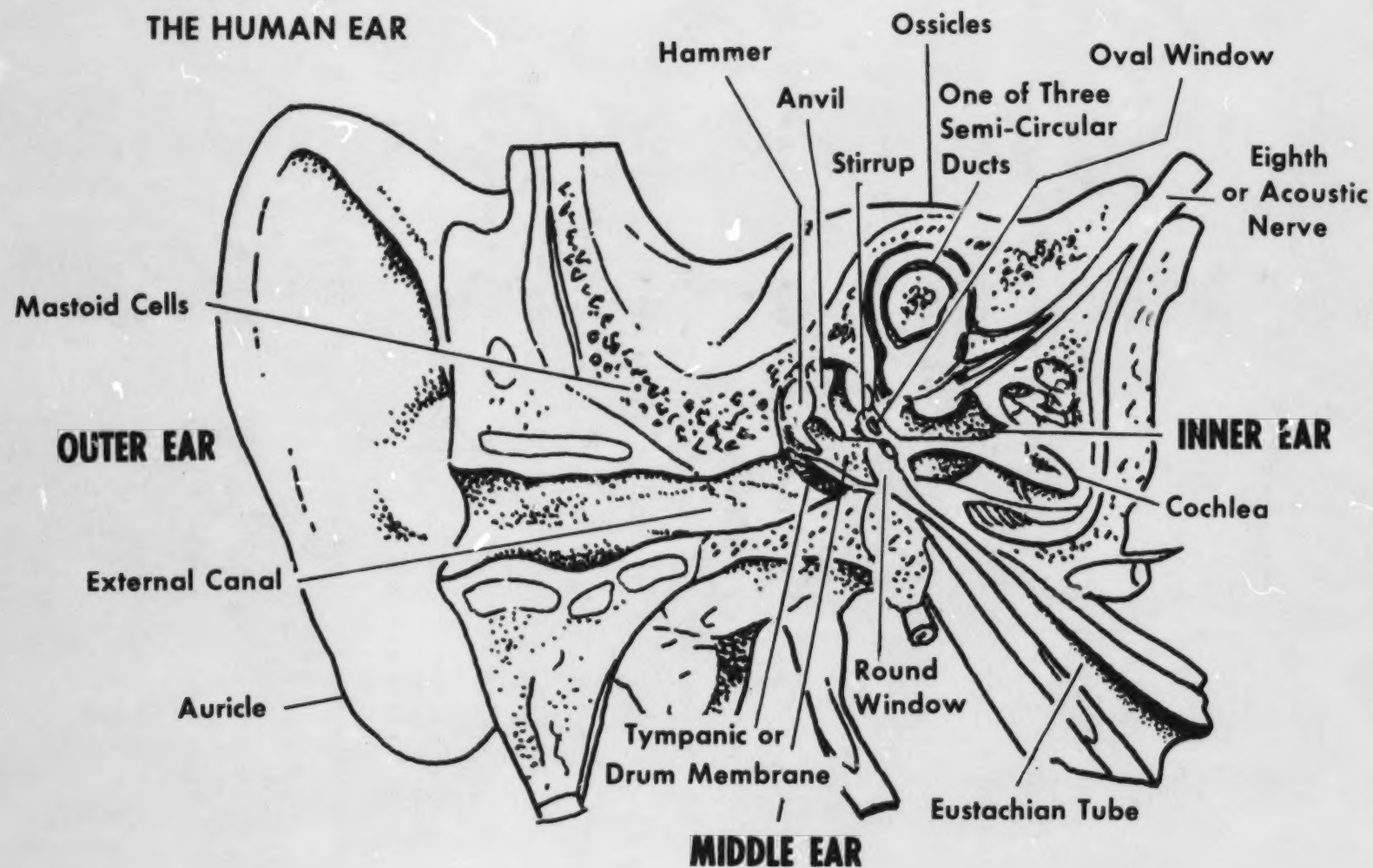
Review of the Hearing Process

You may use any materials available to you to review the process of hearing. Materials for this purpose may be found in science books or curriculum guides. On the page which follows you will find a chart which illustrates the parts of the ear involved in hearing. You may use the chart and the presentation which follows to review the hearing process. If you choose to do so, a transparency may be made of the chart, so that it can be shown on an overhead projector. (Some photoduplicating machines can be used to produce transparencies.) If it is not possible to obtain a transparency, duplicate copies of the chart for distribution to the students so that they can follow it as you speak. An alternate approach is to purchase one of the large charts of the ear included in the list of resources at the end of this unit.

As you point to the appropriate parts of the chart, say:

The ear has three main parts--the outer ear (auricle), the middle ear and the inner ear. Sound vibrations come into the outer ear, pass through a canal to the eardrum, and cause it to vibrate. These vibrations reach the middle ear, which is a small cavity on the inner side of the eardrum. In the middle ear there are three tiny bones which are often referred to as the hammer, the anvil and the stirrup. (Their respective technical names are the malleus, incus and stapes.) These bones are moved by the vibrations of the eardrum, and in turn transmit the vibrations to the fluid of the inner ear. The inner ear contains a

Sectional Diagram of THE HUMAN EAR



snail-shaped structure called the cochlea, which has thousands of sensory cells. These cells, which have microscopic hairs, are actually the endings of the auditory nerve. Movement of the fluid of the inner ear bends these tiny hairs. The hair cells generate electrical impulses which are transmitted to the brain by way of the auditory (eight or acoustic) nerve. Thus the ear changes sound into electrical nerve signals to which the brain gives meaning.

Hearing loss can result from interference with the above process at several different points, as a result of various kinds of problems.

Study of Fact Sheets on Hearing Impairment

Fact Sheets 1.1 and 1.2 on the pages which follow should be used for class study. Make transparencies of these fact sheets to be shown on an overhead projector as you discuss them. If this is not feasible, duplicate copies of the fact sheets for distribution to students. (If neither of these alternatives is feasible, write the facts on the chalk board.) Encourage pupil contributions of personal experiences with hearing impairment throughout the discussion.

Discussion GuideTeacher Statements and Questions

1. We are going to examine some facts about hearing impairment. We will start by learning about the major types of hearing impairments. Read Fact Sheet # 1.1 to yourselves.
2. Let's talk about conductive hearing losses. This type may result from chronic bad head colds, chronically infected tonsils, chronic ear infections. When fluids build up in the ear, the bones of the middle ear are prevented from vibrating normally. Conductive hearing losses can sometimes be corrected by surgery or other medical treatment. Does anyone know a person whose conductive hearing loss was corrected or reduced through medical treatment? Describe what happened.

Notes to the Teacher

Display Fact Sheet 1.1 on the overhead projector or distribute individual copies of it to students. Allow the students time to read it.

One procedure used fairly often with young children is to insert a drainage tube into the ear to remove excess fluid. Removal of tonsils is often undertaken to prevent damage to the middle ear from chronic infection.

3. Has anyone ever had a very bad cold in which your ears felt clogged up and your hearing deteriorated? How did you feel? What else happened to you?

4. Sensori-neural impairment (often called nerve deafness) is caused by genetic factors inherited from parents; by prenatal factors such as drugs taken by the mother during pregnancy or German measles occurring during pregnancy; by injuries during the birth process; by diseases such as meningitis and scarlet fever; by drugs; by prolonged exposure to loud noise. In most cases there is still no cure for this type of hearing disorder but hearing aids may help. Does anyone know a person who is hearing impaired for any of these reasons?

Some students may remember experiencing difficulty participating in group conversations, frustration at not being able to understand what was being said, annoyance with others, difficulty in concentration. These are some of the common stresses associated with hearing loss.

For some classes the language of statement #4 may have to be simplified or the meaning of some of the words in this statement such as "sensori-neural" and "prenatal" will have to be discussed.

If none of the students responds, you may offer the observation that one of the major benefits of the discovery of a rubella (German measles) vaccine is its potential in reducing hearing impairments in children. Maternal rubella in the first few months of pregnancy may cause severe damage to the ears as well as to other organs. However, often the cause of an individual child's hearing loss is unknown.

5. Mixed hearing losses may be caused by the same factors which result in either conductive or sensori-neural losses, when these conditions are severe. Central hearing losses are a result of brain damage from such factors as tumors or (cerebral) hemorrhage.

6. Now let's turn to Fact Sheet #1.2*
Read it to yourselves.

7. Fact Sheet #1.2 gives the major causes of hearing impairments over the entire age range.
What do you think the major causes of deafness in children are?

The meaning of the word cerebral may have to be discussed in some classes.

Allow pupils a few minutes for silent reading.

Heredity, maternal rubella, prematurity, Rh incompatibility and meningitis.

As much as 50% of the population of deaf children under age 5 may have hereditary deafness.

Maternal rubella was the greatest cause of nongenetic hearing loss in school-aged deaf children from the middle 1960s through the early 1970s.

Rh deafness, like maternal rubella, can be prevented today.

Meningitis is the most common cause of post-natal deafness in the school-aged population.

*The discussion relating to Fact Sheet #1.2 might have to be conducted at the next class session. If this is the case, close the discussion at this class session with the first three sentences of the concluding statement on page 17.

8. We've referred to some of the major causes of hearing impairments earlier in this discussion, but there are some which have not yet been mentioned. Let's consider noise. It has been said that if noise pollution is not controlled, by the year 2,000 a majority of city residents will be hearing impaired. What are some of the sources of this destructive noise pollution?

Traffic, industrial noise, construction, sirens, loud music as may be found in most discotheques.

9. A decibel (dB) is the unit of measurement of sound intensity. The lowest measurable sound intensity would be 1 decibel. The point at which sound becomes painful is 140 decibels. It is believed that prolonged exposure to noise of 90 decibels or more is dangerous to hearing. What do you think the noise level of the following objects or situations usually is:

Write "decibel" on the chalk board.

whispering

20-30 dB

a vacuum cleaner

80 dB

a subway train

90-100 dB

a passing motorcycle	90 dB
a fairly quiet office	50-60 dB
disco music	110-125 dB
sandblasting	110 dB
a jet engine close by	140 dB

10. What does this tell us about dangers to our hearing?

We are in danger of damaging our hearing if we spend prolonged periods of time being exposed to disco music, heavy traffic, subway trains, jet engines, noisy machines.

11. What measures can be taken to protect hearing from damage due to noise?
What can society do?

Technological applications to reduce the noise levels of machinery; stiffer penalties for unnecessary loud noise; worker protection through periodic hearing tests and job rotation.

What can we as individuals do?

Avoidance of prolonged exposure to places where loud noise is the rule; reduction of noise under our control, such as television, radio and stereo levels; using earplugs or ear muffs when prolonged exposure to high intensity noise is unavoidable. (Earplugs or muffs are of only limited value, but they are nonetheless recommended when more effective measures are not possible.)

12. Let's look at one other factor associated with hearing impairment--aging. As the average life span increases, hearing loss becomes more common. Many of you have grandparents who are hearing impaired. How does this hearing loss affect them? How does it affect you as you relate to them? How can you help?

Some elderly people withdraw socially in response to an increasing hearing loss. Others begin to speak in an inappropriately loud voice. They may also feel excluded from group interactions. Their hearing relatives may become annoyed and short tempered and may lessen their contacts with the elderly, hard-of-hearing person. Family and friends can help by speaking clearly; by speaking when the hard-of-hearing person is looking at them; by supporting the person in obtaining and using a hearing aid. The elderly often give up before getting a proper hearing aid, getting used to it and learning how to adjust it.

Concluding Statement: Hearing is a precious sense. It can affect how we learn, how we speak and how well we understand the world around us. We need to learn to protect our hearing and to make the most of it. We also need to learn what it means to live with a hearing impairment and how to relate to others who have such impairments.

Fact Sheet #1.1Types of Hearing Losses

1. Conductive hearing losses originate in the middle ear or in the auditory canal connecting the outer ear to the middle ear. In a conductive hearing loss sounds seem muffled.
2. Sensori-neural losses are based in the inner ear. In this type of impairment sound waves are not converted into messages that can be transmitted to the brain. Sounds are often distorted.
3. Mixed hearing losses are a combination of both conductive and sensori-neural losses.
4. Central hearing losses are based in the brain. In this type of hearing impairment speech may be heard but not understood.

Fact Sheet #1.2Major Causes of Hearing Impairments.

Illness--middle ear infections; fluid in the middle ear; childhood diseases such as measles, chicken pox and scarlet fever; meningitis; tumors.

Accidental Injury--small instruments scratching the ear canal or damaging the ear drum; strong blows on the ear; skull fractures.

Heredity--may account for as much as 50% of deafness present in early childhood.

Prenatal or birth factors--maternal rubella; extreme prematurity.

Factors associated with aging.

Noise--an extremely loud explosion close to the ears; prolonged exposure to intense noise.

Drugs--toxic effects of drugs; allergic reactions to drugs.

Supplementary Activities

Compositon

Simulate a hearing loss for one to two hours by wearing heavy ear muffs or plugs, or wearing a hairdryer with bonnet. Ask the people around you to speak very softly. Listen to the radio, phonograph and/or television with the sound turned down well below its usual level. Describe this experience.

Readings

If there is a collection of pamphlets on hearing impairment available in your classroom or school library, read one of them and write a brief summary of the information in it.

Listening

Obtain the record "How They Hear: The Sounds of Abnormal Hearing." (See the resource list at the end of the unit for purchasing information.) This record demonstrates what people with various types of hearing impairments experience. After using Fact Sheet #1.1, allow the class to listen to parts of the record which illustrate the types of hearing impairment just studied.

Film Viewing

EARS AND HEARING
black & white, 10 minutes, 1969

LISTEN
color, 28 minutes, 1973

YOU AND YOUR HEARING
slide/cassette, 12 minutes

See the resource list at the end of this unit for descriptions of the above media materials, and for information on how to obtain them.

Lesson II*

Theme: Communication

Objectives:

- .Students will begin to understand the special communication problems of deaf and hard-of-hearing persons.
- .Students will be able to describe how deaf persons communicate with each other, and with hearing persons.
- .Students will be able to describe fingerspelling and signing and explain their usage.
- .Students will become better able to communicate with hearing impaired persons.

Introducing the Lesson

Ask the class: "What do we mean by the term communication? What is involved when people communicate?"

Allow the students time to present various responses. If they don't come up with all of the following components, provide cues to elicit them, and/or summarize them yourself.

Communication is a social interaction involving the following process: conception of an idea or thought; the translation of this thought into

*This is a very full lesson. Some teachers may choose to expand it somewhat and use it as two lessons.

a verbal or nonverbal mode of expression; the transmission of this expression to a receiver--another person; the decoding (deciphering) of the expression by the receiver; the interpretation or understanding of the idea by the receiving person. Modes of expression include speech, gestures, signs, written symbols. Decoding can involve reading, lipreading, reading signs, or reading gestures as well as decoding of spoken words. Interpretation may involve a host of social and situational connotations in addition to the literal decoding of the message.

Close the discussion of communication by saying: "There are many ways in which problems can arise in the communication process. This is particularly true when one of the persons involved in the process is hearing impaired. We are going to examine some of these possible trouble spots."

Discussion Guide

Teacher Statements and Questions

1. Let's begin with the expression of thoughts or ideas. Is this a problem for hearing impaired people? Why?

2. The age at which a person becomes deaf or severely hearing impaired plays a large role in determining how easily speech will be acquired and how clearly the individual will be able to speak. Prelingual deafness, or deafness present before language is acquired, is a serious obstacle to be overcome in acquiring understandable speech. Has anyone ever heard the speech of a person deaf from birth or infancy? What did his/her speech sound like?

Notes to the Teacher

The expression of thoughts through speech is difficult for persons who were born severely hearing impaired or became so early in life. We acquire speech by hearing speech around us. Children who cannot hear speech do not acquire it naturally.

Write the word "prelingual" on the board.

The speech of prelingually deaf persons may be unusual in inflectional patterns, pitch and volume. Some sounds may be omitted or pronounced incorrectly. With time one may become accustomed to the speech of prelingually deaf persons so that it can be understood without strain, but there may be initial difficulty in understanding it.

Prelingual deafness usually refers to deafness which begins prior to age 3.

3. Let's try to understand a little more about why individuals deaf from infancy can't acquire speech naturally. Think of a deaf infant. Faces with moving mouths surround it. Babies imitate. They may imitate the mouth movements of their mothers and fathers but they have no idea that these movements are associated with sounds, since they never heard these sounds.

How then can children deaf from infancy be taught speech?

Methods include making them aware through tactile means of the vibrations in the throat and the breath production involved in speech. You may wish to have each pupil place one hand in front of his/her mouth and feel the variations in air movement on different letter sounds such as *p, t, f, s*.

4. Sometimes even with skilled teaching deaf children do not acquire clear speech. Even for those who do, this process takes a long time. Many educators of the deaf believe that the child's learning and social development is held back if no method of

communication is available to the child while speech is being acquired. These educators believe in teaching another mode of communication to deaf children. What mode of communication other than speech is there?

Gestures, sign language, fingerspelling.

5. Give me three examples of gestures often used by infants or toddlers.

The arms up gesture for wanting to be picked up; the waving hand motion for good-bye or wanting to go out; the head movement for no; the thrown kiss for affection.

6. Give me three gestures used frequently by adults.

The shoulder shrug for I don't know; the head nod for yes; the vertical hand for stop; the eye wink meaning this is something just between us or I like you; the hand motion for come here.

7. Gestures are a part of our language, a mode of expression used to communicate just as speech. However, if we were to rely solely on gestures for communication there would be many ideas which we would not be able to express.

What kinds of ideas?

8. Let's try to express some ideas through signs only.

9. What party game is built on the idea of communicating through gestures?

10. In what way does that game attempt to minimize the limitations of gestures? What actions or signs have been added so that ideas can be expressed more clearly?

Abstract ideas, theoretical ideas and non-tangible situations would be the hardest.

Ask for volunteers to express each of the four ideas below.

- (1) Come here.
- (2) I am hungry.
- (3) The distribution of wealth is unfair.
- (4) Communism is associated with political oppression.

Numbers 1 and 2 are quite simple to communicate. Numbers 3 and 4 are quite difficult.

Charades.

By adding ways of indicating letters and syllables; by agreeing upon gestures to indicate such events as motion, pictures, books, plays, etc.

11. Since natural gestures alone cannot express enough ideas, manual communication systems have been developed to do so. What does "manual communication" mean?

Write the word "manual" on the board.

12. Fingerspelling and sign language are manual communication systems.

The word manual refers to hand. Manual communication means communication done with the hands.

Fingerspelling

On the page which follows is a chart of the one-handed American manual alphabet.* Make a transparency of this chart and show it on the overhead projector and/or duplicate copies for each student.

Find out if there is a student in the class who knows fingerspelling, a parent of a student who knows fingerspelling, or a teacher who knows it. If there is, ask that individual to demonstrate the manual alphabet and the communication of some ideas through fingerspelling. If it is not possible to have a demonstration by a person skilled in fingerspelling, study the fingerspelling alphabet yourself, and then have the class practice the movements together. In fingerspelling the hand is held in front of the chest.

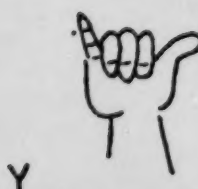
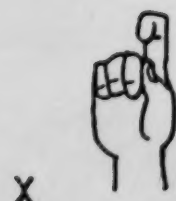
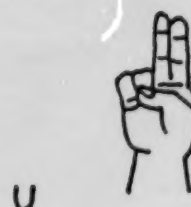
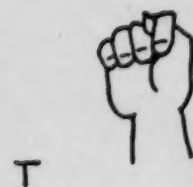
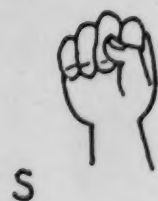
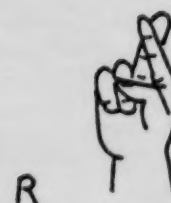
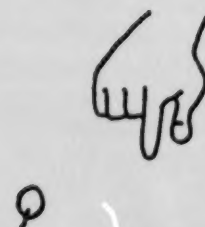
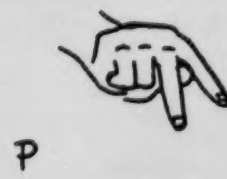
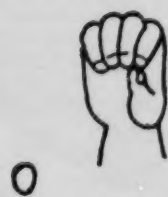
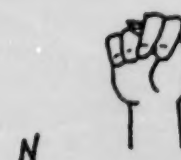
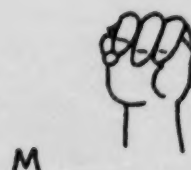
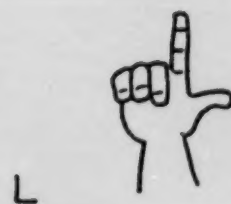
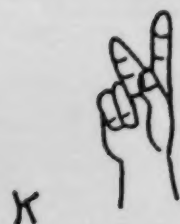
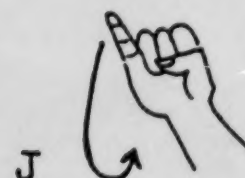
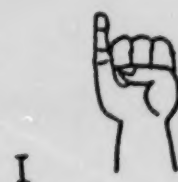
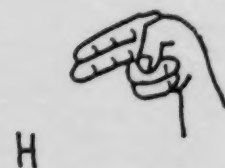
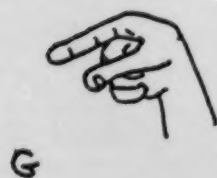
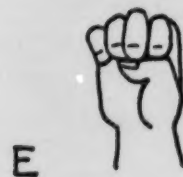
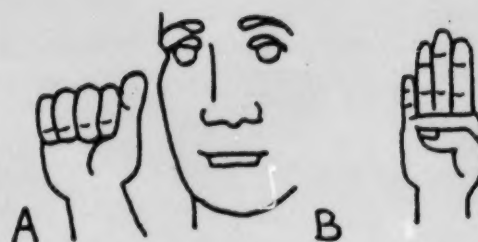
Have all the students learn to fingerspell the word hello and perform it together. Then ask each student to learn to spell one other word. Have a couple of students demonstrate while the rest of the class "reads" the spelled words. Then have the students work in pairs, with each member of a pair fingerspelling one word and "reading" a word presented by the other student.

Bring the class back together again and give them a chance to voice their reactions to this exercise. Then close the activity by stating that fingerspelling is rarely used alone as a means of communication. It is used as an adjunct to signs or speech.

*See the resource list at the end of this unit for information about how to obtain fingerspelling charts or cards.

THE AMERICAN MANUAL ALPHABET

As seen by the reader



Sign Language

If you have been able to obtain a resource person to demonstrate fingerspelling, ask that person to demonstrate some common signs as well.

If not, be prepared to carry out this part of the lesson yourself.

Discussion Guide

Teacher Statements and Questions

1. In fingerspelling, words are spelled out letter by letter. In signing, words or concepts are expressed by different signs. I am going to distribute a fact sheet on manual communication. Read it to yourselves.
2. At the end of the fact sheet are some common signs. Let's try to make them.
3. Of course if you want to communicate ideas you need more than action words (verbs) and the names of common objects (nouns). What other kinds of words or concepts need to be expressed?

Notes to the Teacher

Distribute Fact Sheet #2.1.

You may ask for a volunteer to demonstrate each sign. Read the directions to make sure the student is forming the sign correctly. Then have everyone do so.

Pronouns, adjectives, adverbs and nouns representing abstract concepts such as freedom, wealth, dignity, independence. Here there is a much less direct connection between the sign and the idea.

4. Manual communication is taught to deaf children so that they have some way of expressing themselves while they are acquiring speech. It is also taught because not all deaf persons can acquire usable speech. With whom can deaf persons communicate using sign language?

Sign language is the major mode of communication between deaf persons.

It is only useful in communicating to hearing persons who know sign language. This usually means teachers of the deaf and people who had deaf parents. Hearing parents of deaf children sometimes study sign language so that they can communicate with their children in this way.

5. Has anyone ever seen people communicating through signing? How did you feel? How do you think other people felt about it?

Sometimes people who are signing are misperceived as weird because those observing do not understand what is taking place. Even when observers recognize that communication is taking place, they may feel it is strange. Other people may have found the experience fascinating.

Concluding Statement: Sometimes people feel uncomfortable when something is happening which they don't understand or can't participate in. Once we understand what is going on and become familiar with it, it no longer seems strange to us.

Speechreading (lipreading)*Discussion GuideTeacher Statements and Questions

1. Deaf people may express their ideas through speech, fingerspelling, signs, or writing. How do they understand what other people are saying if they can not hear?

2. Speechreading, which is often referred to as lipreading, is a regular part of educational programs for hearing impaired children. It is an essential tool for hard-of-hearing persons as well as those who are deaf. In fact, it was originally developed for persons who had acquired speech before becoming hearing impaired.
What does speechreading consist of?

Notes to the Teacher

By reading what other people write.

By use of interpreters.

By reading their speech or lips.

Pupils will usually say figuring out words from the movements of the lips. This is not completely correct. Speechreading involves the use of facial cues and context cues as well as lip movements, since it is impossible to distinguish some sounds from lip movements alone.

*The remainder of this lesson may have to be implemented at the next class session.

3. Let's see some of the things that make speechreading difficult.

Mouth the following set of consonant sounds without voice: /p/b/m/. Ask the pupils to name the sounds. Since it is impossible to distinguish these sounds on the basis of lip movements alone, there is sure to be disagreement.

4. It is impossible to distinguish those three sounds on the basis of lip movements alone since they look the same on the lips. Let's try a set of words this time.

Mouth the following words: *bat, bad, ban*. Ask the students to repeat them. Since /t/d/ and /n/ are also indistinguishable on the lips, these words are not distinguishable through mouth movement.

5. It is because some sounds are indistinguishable from one another speechreading must include attention to facial and context cues. Even so, it is impossible to speechread everything. The use of hearing aids and speechreading together often enables a hard-of-hearing person to understand much of what is being said. Training in speechreading may be valuable for many elderly people who have become hard-of-hearing.

Let's prepare a list of ways to help make speechreading easier for hearing impaired persons.

What makes speechreading easier?

Prepare a list on the chalkboard. It may include:

- .Face the person when addressing him.
- .Make sure the person is looking at your face when you begin to talk.
- .Make sure there is sufficient light for the person to see your mouth movements.
- .Stand so that the light isn't directly hitting the eyes of the person reading your speech.
- .Keep your mouth free of objects such as food, gum or cigarettes when you speak.
- .Keep your hands away from your mouth when you speak.
- .If the hearing impaired person has trouble grasping a particular word, use a different word to express your idea.
- .Use normal (rather than exaggerated) mouth movements.
- .Use facial expressions and natural gestures such as pointing whenever appropriate.

InterpretersDiscussion GuideTeacher Statements and Questions

1. Speechreading is difficult for some deaf people. They need another kind of help to understand what others are saying. They need interpreters. What is an interpreter?
2. Sometimes deaf persons need interpreters to interpret speech into sign language for them. Has anyone ever seen a sign language interpreter? Where?
3. What else does the interpreter do besides translate speech into sign language?
4. In what kinds of situations might an interpreter be needed?

Notes to the Teacher

A person who translates from one language to another.

Some television programs have insets of sign language interpreters.

Translate the sign language of deaf persons into speech.

In a courtroom procedure; in a serious medical situation; in a college classroom; at an important conference.

Concluding Statement: There are programs to train interpreters for the deaf. Interpreters enable deaf people to function with hearing people even if their speech is not clear and they cannot speechread well.

Fact Sheet #2.1Manual Communication*

Fingerspelling can be traced back to seventeenth century Spain (1620) and may even have been used earlier. Fingerspelling was introduced in the United States in the early nineteenth century (1817) for the instruction of deaf pupils.

Signing involves presentation of a word or concept through a sign. Signs consist of three elements: the position of the hands; the configuration of the hands; the movement of the hands. There are many variations of sign language. The most widely used form in our country is American Sign Language or Ameslan.

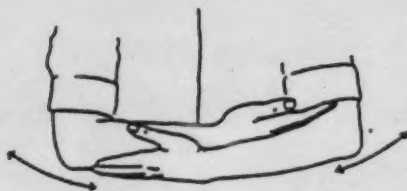
Most deaf persons who use manual communication use both signs and fingerspelling. Fingerspelling is used to express words for which no signs exist, such as persons' names.

Manual communication is easy for most deaf young children to acquire because many commonly used signs clearly represent the action involved, as shown on the following page.

*Reference: Moore, D. F. Educating the Deaf: Psychology, Principles and Practices. Boston: Houghton Mifflin, 1978.

Fact Sheet #2,1 (continued)

BABY

EAT, FOOD, (BREAKFAST),
(LUNCH), (DINNER, SUPPER)

SMILE, LAUGH (DM)



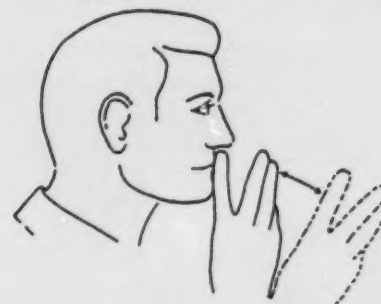
LOOK AT, WATCH



CRY (DM), TEARS



WATER (DM)



Supplementary Activities

Demonstration

.Ask a small group of students to study the fingerspelling alphabet until they have developed sufficient skill to both spell and "read" it. (They may want to seek out an expert to work on the finger placements with them.) Have the students demonstrate some prepared sentences. Then have their classmates suggest short sentences to one of the group members. Have another group member read the sentences fingerspelled.

.Ask a small group of students to do further study of signing. Students will need to obtain resources from libraries, special education programs or any of the other resources listed at the end of this unit; or, they may be able to learn more about signing from a person who is fluent in its use. Ask these students to prepare short statements, or a poem, story or song to demonstrate.

Composition

Watch a television news report for three minutes with the sound turned off. Then write what you "heard." Do this three times during the same broadcast. Then describe how much you actually understood and how you felt about the experience. Include your notes on what you "heard."

Film Viewing

HELLO EVERYBODY...LET ME TELL YOU ABOUT MYSELF
Part I: Hearing and Speech Impairment
Filmstrip/cassette, color, ten minutes, 1978

See resource list at the end of this unit for a description of this filmstrip and information on how to obtain it.

Lesson III

Theme: Aids and Equipment for the Hearing Impaired

Objectives:

- .Students will be able to describe the initial assessment procedure for hearing impairment.
- .Students will be able to identify categories of hearing loss.
- .Students will be able to describe the uses and limitations of hearing aids.
- .Students will become aware of a variety of visual devices used by hearing impaired persons.
- .Students will be able to define basic terms associated with hearing impairments.

Introducing the Lesson

Begin by saying: "How many of you think you have good hearing? What makes you think so?" The students may respond with statements like: "Because we can hear everything that other people can hear; We can hear what everyone says." Then ask: "If your hearing were not as good as other people's, would you know that? How?" Sometimes children who have a hearing impairment since birth or early childhood don't realize that their hearing

is not good because they haven't experienced any other way of hearing. This is particularly true if the hearing impairment is mild or moderate. Even their parents and teachers may not realize that something is wrong with the child's hearing. They may think the child is not paying attention or doesn't want to respond. The child may be having trouble with school work and with speech as well without anyone realizing the reason why. "What is done by most school systems today to try to prevent such a situation from continuing?" Most school systems conduct screening tests for hearing to identify children who may have hearing impairments. Children identified in this way are then referred for further testing.

Discuss with your pupils any hearing screening tests which they have taken. Ask whether any students were identified as in need of further assessment, and what happened after that point. Close the discussion by stating: "Unrecognized hearing impairments can interfere with learning, with speech development and with social relations. This is why it is important to identify individuals with hearing impairments."

The Assessment of Hearing

Duplicate sufficient copies of Fact Sheet #3.1 for all pupils. Distribute the copies and ask the students to examine the fact sheet.

Discussion GuideTeacher Statements and Questions

1. What is this fact sheet about?
What is an audiogram?

2. An audiogram is a graph on which a person's hearing has been plotted. The "x's" and "o's" on the audiogram represent facts about a person's hearing obtained through a test. "x" stands for hearing in the left ear; "o" for hearing in the right ear. What do the numbers from -10 to 110 on the left-hand side of the audiogram represent?

3. What do the numbers from 125 to 8000 across the top of the audiogram represent?

Notes to the Teacher

The aim of this question is to find out whether students recognize the audiogram as a method of recording and analyzing a person's hearing.

These numbers are decibels. A decibel is a measure of the intensity (or loudness) of a sound.

These numbers are Hertz units, which represent frequencies, or vibrations per second of a sound wave. Frequencies indicate how high or low pitched a sound is. The higher the frequency, the higher the pitch.

4. For the understanding of speech, the most important frequencies are between 500 and 2000 Hertz. A person is considered deaf if his hearing in this range is extremely poor, even if he can hear some sounds at very high or very low frequencies.

Look at the right of the audiogram.

Let's suppose that a person has a loss of 25-40 decibels across most frequencies.

What sounds might this person have difficulty hearing?

Whispering; distant sounds.

5. Will the person have trouble understanding normal conversational speech?

Probably not, since conversational speech usually takes place at about 55 decibels.

6. Suppose a child has a hearing loss of 50-55 decibels. How might this affect the child's functioning?

This child would be able to understand conversational speech when the speakers were within five feet of him/her, but might have difficulty understanding speech if the speaker were further away. This child might also not be able to follow group discussions. There might be some inaccuracies in the child's enunciation. The use of hearing aid or aids might be indicated. The child might benefit from instruction in speech reading and speech.

7. Suppose a person's loss was about 65 decibels across most frequencies. In what situations might that person have trouble hearing?

In normal conversation unless the other person(s) spoke unusually loudly; in telephone conversations; at movies and theatres; during lectures; in a classroom. This person might also have trouble hearing most common non-speech sounds. This person will need hearing aids, training in speechreading, training in the use of the hearing that is left and speech training.

8. Can you explain why some persons who are called deaf may be able to hear a whistle or a drum?

They may have a profound hearing loss at sound frequencies used in speech, but may have a milder loss at very high or very low frequencies. (They may also feel the vibrations produced by these sounds.)

9. Now let's consider some of the aids available for improving the functioning of people with moderate, severe and profound hearing impairments.

Hearing Aids

If there is a pupil in the class, a parent of a pupil, or a teacher in the school who wears a hearing aid, check with that individual to determine whether that person would be willing to serve as a resource for this part of the lesson. If so, ask the person to display the hearing aid, describe how it is worn, how it is cared for, and how it changes the world of sound for him/her.

If it is not possible to arrange for a resource person who uses a hearing aid, begin by duplicating copies of the hearing aid picture which follows for all students, or make a transparency of it and display it on an overhead projector.

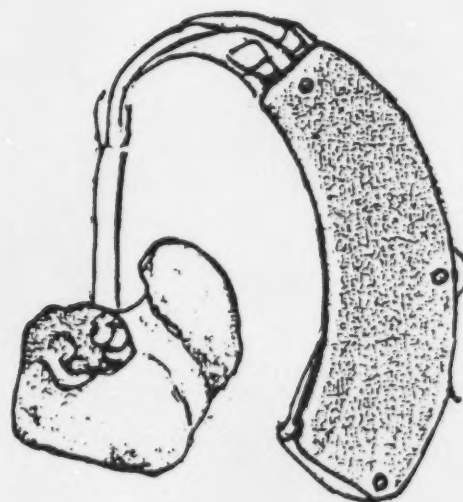
Discussion Guide

<u>Teacher Statements and Questions</u>	<u>Notes to the Teacher</u>
1. How many of you have seen a hearing aid up close? What does it look like? What does it consist of?	Distribute the picture of the two major hearing aids. Give the students a couple of minutes to examine the picture. See statement #2.
2. As you can see, there are two major types of hearing aids, an over-the-ear or post-auricular aid; and a body aid. All hearing aids have an ear mold, a receiver, and a cord (or tube) which	There are also hearing aids in which the receiver is in an eyeglass frame or in which all of the parts are in the ear.



Body Aid

Post-Auricular Aid



connects the two. The ear mold goes into the ear. In a post-auricular aid the receiver is behind the ear. In a body aid the receiver is worn in a pocket over the chest. What do you think the receiver does? What is its function?

3. Why may a hearing aid take time to get used to and even seem to make things worse at first?

4. Even when a hearing aid or two hearing aids don't help a person understand speech they may help the person in other ways. Can anyone think of any of these ways?

It operates as a microphone to make sounds louder. It does not, however, make them clearer.

Since a hearing aid amplifies all sounds, it may increase some loud sounds to frightening levels. Since the hearing aid increases the level of background sounds, people beginning to use hearing aids must learn to screen out unwanted noise and concentrate on important sounds.

They may enable the deaf person to hear loud warnings such as a siren, a car horn, a train whistle, or a fire bell. They may also alert the person to the fact that someone is talking. Then he/she can use speechreading to understand what is being said. They may help the deaf person localize the source or direction of sound. Then the deaf person can use vision to learn more about the situation.

Equipment to Aid the Deaf

If you have been able to identify a deaf person to use as a resource, find out if the person can bring or lend you any of the equipment referred to below. If not, obtain a catalogue of such equipment. (See Accessories to Aid the Hard of Hearing in the resource list at the end of the unit.) Also, obtain the free booklet Services for Special Needs from the Bell Telephone Co.

Discussion Guide

Teacher Statements and Questions

1. Even with the use of hearing aids some deaf persons cannot hear sounds important to everyday functioning. What sounds do we rely on being able to hear?
2. Is there any way to enable deaf persons who cannot hear these sounds to know when a bell is ringing or a baby crying? What ways (principles) could be used to do this?

Notes to the Teacher

Door bell, telephone and alarm clock ringing; baby crying.

Yes.

Since most deaf persons can see and feel, visual or tactile cues can be substituted for auditory ones.

3. If we wanted a deaf person to know that the door bell was being rung, what could be done?

Design a setup whereby a light would flash each time the door bell was pushed, or a fan would be turned on each time the door bell was pushed.

4. What about an alarm clock?
A baby crying?

The alarm clock could be hooked up to a lamp or a vibrator attached to the person's bed. A sound-activated electronic attachment could be placed on a baby's crib and attached to a lamp or vibrator in the deaf person's room.

5. All of these devices, that change sound cues to visual or tactile cues, are available commercially. There are companies which specialize in these types of aids. If you consider that there are about 2 million deaf persons in the United States, you begin to understand why this equipment is available commercially.

At this point either actual equipment using the above principles should be displayed, or catalogue pictures and descriptions of such equipment should be made available for examination.

6. The telephone is an extremely important tool. Not being able to use the telephone cuts deaf people off from social interactions, work opportunities, information

and a source of help in emergencies. American technology has been put to work on this problem. Does anyone know of adaptations of the telephone specifically for the deaf or hard-of-hearing?

7. One major innovation is a teletypewriter. This is a teletype machine attached to a telephone. Instead of talking, the deaf person types his message. The message is transmitted through telephone cables and is printed out on a teletype machine at the other end. This is a great aid, but its use is limited. Why?

Telephones with amplifiers are available for hard-of-hearing persons. Portable amplifiers may also be purchased.

See statement #7.

Cost. The cost of purchasing a teletypewriter is often in the \$700 to \$1,000 range, although it may be made available to deaf individuals for as little as \$400 in some states. Until recently, the cost was much higher. The second limitation is availability. A teletypewriter can only be used to communicate with someone else who has access to a teletypewriter.

(Deaf persons also speak over the telephone by having a hearing person on another extension repeat what the caller is saying. The deaf person gets the message by speech reading and then replies to the caller.)

Concluding Statement: More technological innovations are on the way, such as television adapters which would enable deaf persons to get captions on their TV programs. These technological innovations can greatly enrich the lives of deaf persons. However, there will always be times and situations in which the understanding and adaptability of hearing persons will be the deaf person's most valuable aid.

Write the words below on the chalkboard and ask for volunteers to define them. Provide the definitions below when needed. Most of the words have already been introduced in the unit.

- (1) audiologist--a specialist trained to evaluate hearing and provide speech, hearing and language training to hearing impaired persons.
- (2) audiogram--a standard form (graph) on which an individual's hearing is plotted.
- (3) deafness--the inability to hear speech, usually identified with a hearing loss of 90 decibels or higher.
- (4) decibel--a measure or unit of sound intensity (loudness).
- (5) hard-of-hearing--a condition in which hearing is impaired but still functional. Hard-of-hearing persons can hear speech, with or without hearing aids.
- (6) hearing impairment--refers to all levels of hearing loss from mild through profound.
- (7) interpreter--a person who translates speech into manual communication and vice versa.
- (8) oral communication--an approach to the education and functioning of hearing impaired individuals which relies on speech, speechreading and the use of residual hearing (the hearing still retained by a hearing impaired person). It excludes manual communication.
- (9) prelingual deafness--deafness present prior to the development of language, usually used as meaning prior to 3 years of age.
- (10) total communication--refers to a philosophy and method of including all communication modes, e.g., speech, fingerspelling, signing, gestures, speechreading and the use of residual hearing, in the education and functioning of deaf individuals.

Supplementary Activities

Construction

Adapt an alarm clock so that it will light a lamp rather than ring.

Composition

Read the following booklet: Services for Special Needs, produced by the Bell Telephone Company. Write a brief description of the various kinds of special equipment available to enable persons with disabilities to use the telephone.

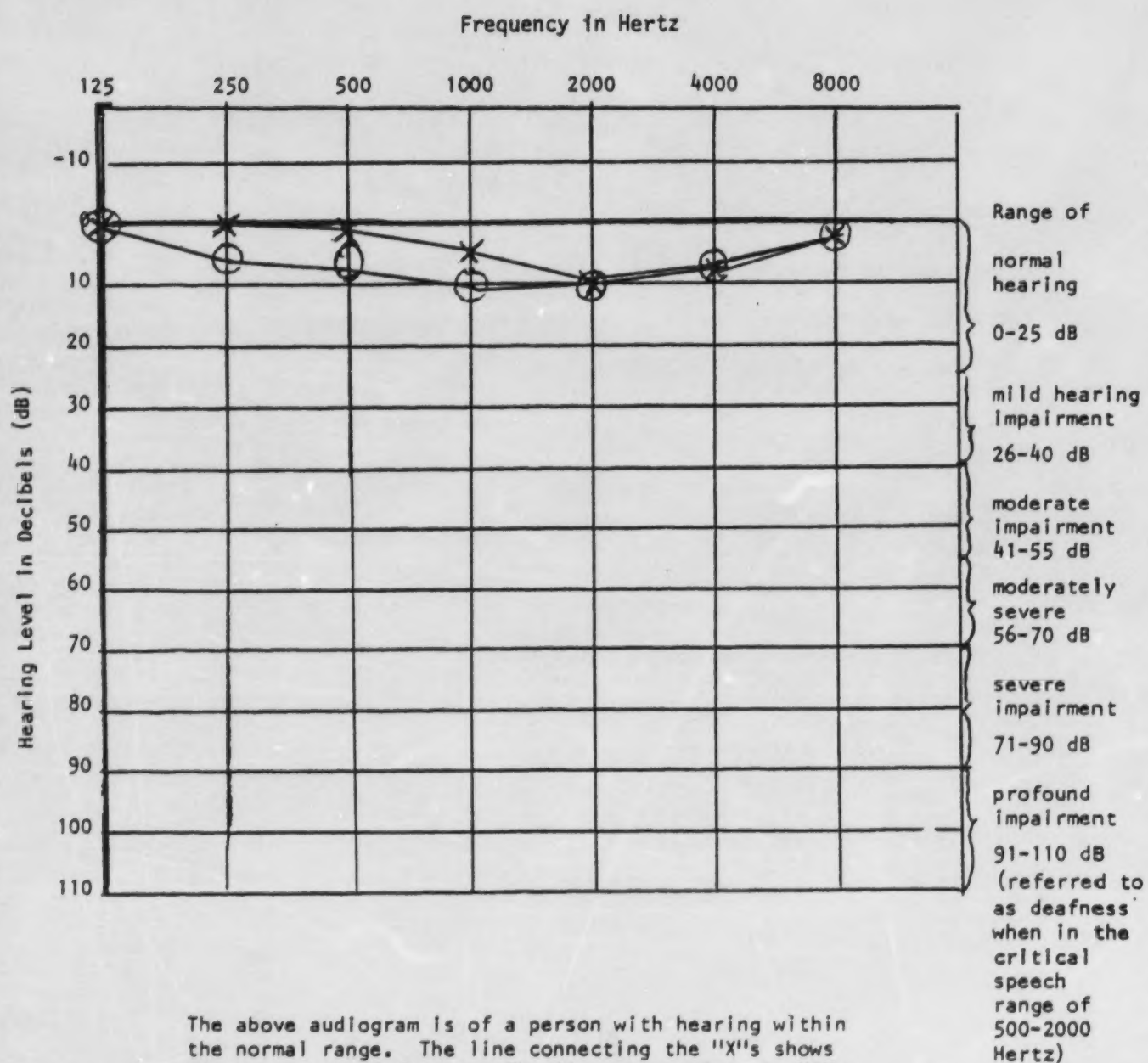
Reading: Hearing Dogs

There is another kind of resource being developed to aid deaf persons-- the hearing dog. Most students will be familiar with guide dogs, often referred to as "seeing eye dogs," used by the blind. Hearing dogs are a newer phenomenon but follow the same principle of utilizing the dog's intact sense to aid the person in whom that particular sense is nonfunctional.

Duplicate Fact Sheet #3.2 for distribution to the students. Ask the students if they know what a "hearing dog" is. If none of the students does, ask them to guess at what it might be and what it might be used for. Then say: "A hearing dog is trained to aid a deaf person as a guide dog is trained to aid a blind person." Distribute the fact sheets and ask the students to read them as a homework assignment.

Fact Sheet #3.1

PURE TONE AUDIOGRAM



The above audiogram is of a person with hearing within the normal range. The line connecting the "X"s shows hearing in the left ear. The line connecting the "O"s shows hearing in the right ear.

Reference: You and Your Deafness. Washington, DC: Gallaudet College, 1973.

Fact Sheet #3.2

HEARING DOG

The Hearing Dog Program trains dogs to alert deaf persons to sounds in the home which they might otherwise be unable to detect. The American Humane Association has been training Hearing Dogs at its national training center outside Denver, Colorado since 1976. This training program is the only one of its kind in the nation.

Hearing Dogs are mixed breed dogs who are selected from animal shelters and humane societies by professional trainers and veterinarians. The criteria for selection includes good health, good temperament and friendliness.

Dogs undergo three or four months of instruction which begins with obedience training. They are then taught to alert their masters to selected sounds such as alarm clocks, smoke alarms, telephones, babies cries, doorbells or door knocks, and burglars or other intruders. Each dog's training is tailored to the owner's specific needs.

In the final phase of training, which lasts five to seven days, each dog and the deaf person who will become his owner work together. This gives them a chance to adapt to each other. Several months after a dog is placed, a follow-up visit is made to insure that the dog and its owner are working well together.

Hearing dogs are provided without charge to the deaf person.

Reference: Hearing Dog and American Humane's Hearing Dog Program.
Denver: The American Humane Association.

Lesson IV

Theme: Myths and Realities About Hearing Impaired Persons

Objectives:

- .Students will be able to distinguish between myths about the hearing impaired and real situations or facts.
- .Students will be able to identify the false information in myths about the hearing impaired.
- .Students will be able to identify inappropriate ways of interacting with deaf persons.

Introducing the Lesson

Say: "Deaf people have special problems to deal with. Many of these problems arise from their inability to hear, but some of these problems are a result of the way hearing people react to deaf people. In what ways do some hearing people react negatively to deaf persons?" Allow the students to respond (e.g., They are afraid of deaf people; they don't want anything to do with them; they think deaf people are dumb). Then continue with the following: "There are many myths about deaf persons. A myth is a belief based on limited understanding. It's like a guess about how or why something occurs. We are going to examine some of the myths, or false beliefs, about deaf persons."

Myths (or False Beliefs)*

Duplicate sufficient copies of the "Fact or Myth" quiz on page 62 for all pupils.

Discussion Guide

Teacher Statements and Questions

1. I am going to ask you to take a short quiz about deaf people. Do it quickly.
2. Now we will go over the answers to see if we can separate facts from myths.
3. Myth or fact: Deaf people cannot speak.
4. Myth or fact: Deaf people work as engineers, draftsmen, teachers, etc.

Notes to the Teacher

Distribute the "Fact or Myth" quiz. Give the pupils about three minutes to do it.

Go over each question with the class, providing the additional information given below.

Myth. Many deaf persons speak, but their speech may be difficult to understand until we get used to it. Some deaf persons don't like to talk in public because of the negative reactions of some people to the sound of their speech.

Fact. Deaf persons are increasingly attending college, sometimes special colleges for the

*Reference: Beyond the Sound Barrier. Washington, DC: Regional Rehabilitation Research Institute on Attitudinal, Legal and Leisure Barriers, 1978.

deaf such as Gallaudet College in Washington, DC, or the National Technical Institute for the Deaf in Rochester, New York. Many other colleges now provide or arrange for interpreters for their deaf students.

Because of federal laws passed in the 1970s which prevent discrimination against the handicapped, many job opportunities have opened up to deaf persons in large companies and government agencies.

5. Myth or fact: Deaf people are dumb.

Myth.

6. How many of you have heard the phrase "deaf and dumb?"

What is meant by the word "dumb" in this phrase?

Mute (can't talk).

Stupid (can't learn).

7. Connotations of both muteness and stupidity are included in this phrase.

Deaf persons may have superior, average or below average intelligence. What is true is that because of their difficulty in learning language, deaf persons do not do as well as hearing persons on tasks involving language. On the whole, children who are deaf do not do

8. Myth or fact: Deafness means not being able to hear anything.
9. Myth or fact: Deaf people can understand everything you say by reading your lips.
10. Myth or fact: Deaf couples are not capable of taking care of their children.

as well in reading or in other subjects involving language as children who can hear; but a small proportion of deaf children do achieve as well or better than most children who can hear.

Myth. Most deaf persons can hear sounds of certain pitches if they are loud enough, but the hearing they do have (residual hearing) is not sufficient for understanding speech.

Myth. All people rely on lipreading to some extent, particularly when there is a (temporary) impediment to our hearing such as an ear infection or fluid in the ear.

Even a trained and experienced deaf speech-reader can only understand 30-40% of speech by watching the lips alone, since so many sounds look like each other on the lips.

Myth. The only area in which children of deaf parents may need special help is in speech and language development. This help may be provided by hearing relatives and/or by infant and preschool education programs.

11. Myth or fact: A deaf parent usually has deaf children.

Deaf parents may use a variety of adaptive aids plus close physical proximity to insure their young child's safety.

Myth. Even when both parents are deaf they have hearing children more often than deaf children. However, it is also true that two hearing people can give birth to children who are genetically deaf, if each parent has one gene for deafness.

12. Myth or fact: Deafness is catching.

Myth. Deafness is not catching. Some of the conditions which may result in deafness, such as measles, meningitis, and scarlet fever, are catching but deafness itself is not. You cannot become deaf through close contact with deaf people.

13. Myth or fact: Deaf people can only do menial work.

Myth. See note #4.

14. Myth or fact: The social lives of many deaf people revolve around activities with other deaf people.

Fact. Many deaf people prefer or find it more comfortable to interact socially with other deaf people. This is particularly

true of prelingually deaf persons who have difficulty speaking clearly enough to be understood, and to whom manual communication is a native language. However, some deaf people marry hearing people and interact extensively with hearing persons.

Fact or Myth?

Answer the questions below by putting an "x" in the appropriate column.

	Fact	Myth
1. Deaf people cannot speak.		
2. Deaf people work as engineers, draftsmen, teachers, etc.		
3. Deaf people are dumb.		
4. Deafness means not being able to hear anything.		
5. Deaf people can understand everything you say by reading your lips?		
6. Deaf couples are not capable of taking good care of their children.		
7. A deaf parent usually has deaf children.		
8. Deafness is catching.		
9. Deaf people can only do menial (simple) work or jobs.		
10. The social lives of many deaf people revolve about activities with other deaf people.		

Deaf and Hearing People Interact

Below you will find a series of vignettes on the interaction of deaf and hearing persons.* Read one vignette at a time, or have a different student read each one, and then ask the students to react to it.

Each vignette illustrates lack of understanding or an inappropriate way of relating to deaf individuals.

Discussion Guide

Teacher Statements and Questions

Vignette #1

Martha, a young adult, is approached by a person who knows that Martha is deaf. The person hands her a note which says: "Can you read?"

What does this person's behavior indicate? What beliefs about deaf persons does she probably have?

Notes to the Teacher

This person may believe that deaf persons are dumb (meaning not intelligent), and that they are not capable of achieving basic skills such as reading and writing.

*Reference: Beyond the Sound Barrier. Washington, DC: Regional Rehabilitation Research Institute on Attitudinal, Legal and Leisure Barriers, 1978.

What would have been a better way for this person to act if she wanted to communicate with Martha through reading and writing? Why was her note inappropriate?

If Martha had been unable to read, she could not have responded. If she had been able to read, she would probably have taken the note as an insult or "put down."

The other person should have spoken to Martha first, telling her what she wanted to communicate. Martha may have been able to speech-read the message. If Martha could not understand the other person's spoken words, then the other person should have written the message she wanted to communicate. If by some (slight) chance Martha had been unable to read, she would not have been able to respond to the written message, and the other person would have known that Martha could not read.

Vignette #2

Jack is seated in an aisle seat of a train. The man next to him asks Jack to move so that he can get into the aisle. Jack continues to read without responding. The man repeats his request in a loud and unfriendly tone. Still Jack does not respond. The man then pushes his way past Jack angrily.

What belief does this man hold about Jack?

This man believes that Jack is rude and unfriendly. He assumes that Jack heard his request.

How does Jack feel about this incident?

He probably perceives it as another case of stressful interaction with hearing people. He may be embarrassed and hurt by it, or he in turn may become angry at the lack of awareness of deaf people by most hearing people.

What principle (or generalization) can we draw from this incident about interacting with other people?

Don't immediately assume bad intentions on the part of the other person. First consider other possibilities, such as the person not hearing or seeing you, or not being able to respond to you in the usual way.

Vignette #3

Susie is very excited about her day at school. She is happily telling her father about it and is also using sign language to describe it. Her father angrily tells her to stop using her hands.

What could have made her father say this?

Her father does not understand sign language. Only about 2% of hearing parents of deaf children have learned sign language.

How does her father's response make
Susie feel?

Susie's father may also be embarrassed when she uses sign language in public. It may make him feel that people are watching them, thinking his daughter strange, or pitying them.

Her father's shame and anger will be communicated to her. She may either become ashamed of signing, or she may become much less likely to try to communicate with her father.

Summary Statement

Deaf persons are hurt and hindered by the myths, prejudice and ignorance of hearing people in many situations at all stages of their lives. If these myths and prejudices were overcome, and if hearing people learned to interact with deaf persons in appropriate ways, a large part of the handicap of being deaf would be removed.

Supplementary Activities

Television Viewing

Scan the television listings for programs with or about hearing impaired individuals. Occasionally the National Theatre of the Deaf appears on television. Sometimes there are documentaries about hearing impairment and dramas about hearing impaired persons. If any such program is being shown, watch it. Then describe, either in a composition or in an oral presentation to your class, what you thought of the program and how it made you feel.

Film Viewing

SWAN LAKE: CONVERSATIONS WITH DEAF TEENAGERS
color, 15 minutes, 1973

See the resource list at the end of this unit for a description of the film and information on how to obtain it.

Unit ExaminationBriefly describe or define

- 1-3. Three major causes of hearing impairment.
4. How deaf persons often communicate to each other.
5. What an interpreter for the deaf does.
6. What an audiogram is.
7. What speechreading is.
8. What a decibel is.
9. The principle of adapting equipment such as door bells and alarm clocks for use by deaf persons.

Indicated by listing the correct letters

10. Which of the following are myths about the hearing impaired?
 - (a) Deaf people are dumb.
 - (b) Deaf people almost always have deaf children.
 - (c) Many deaf persons prefer to socialize with other deaf persons.
 - (d) Deaf people cannot hold jobs as engineers, teachers or computer operators.

Resources on Hearing Impairment*

I. Literature

1. Alexander Graham Bell Association for the Deaf
3417 Volta Place, N.W., Washington, DC 20007

(single copies free)

Affirmative Action for Disabled People.

Careers in Education of the Deaf.

Signaling Devices for Hearing Impaired People.

(for purchase)

Kennedy, M., & Whitehurst, M. Suggestions for Friends
and Relatives of the Hard of Hearing. (\$0.75)

Smith, G. M. The Telephone Adapter and Other Telephone
Aids for the Hard of Hearing. (\$0.75)

2. Better Hearing Institute
1430 K Street, N.W., Suite 600, Washington, DC 20005

(single copies free)

Barr, N. L., Jr. Tinnitus, or Head Noises.

Nerve Deafness and You.

Sound or Silence? We Chose Hearing Help. 1976

We Overcame Hearing Loss. 1977

* Prices quoted are as of 1979.

3. Gallaudet College Bookstore, Gallaudet College
Washington, DC 20002

(for purchase)

Bowe, F., & Sternberg, M. I'm Deaf Too: Twelve Deaf Americans.
1973 (5th & 6th grade reading level - \$2.45)

4. Gallaudet College, Division of Public Services
7th Street & Florida Avenue, N. E., Washington, DC 20002

(for purchase)

American Manual Alphabet. (8 x 10 cards) (\$0.10)

American Sign Language: Fact and Fancy. (\$1.00)

Deafness Briefs: Information on Deaf Adults. (\$0.02)

A Look at American Sign Language. (\$0.20)

A Look at Fingerspelling. (\$0.20)

Mini-Leaflets: Here Comes the Judge. (\$0.50 per 25 copies)
(Available in Spanish)

Mini-Leaflets: Stuck for the Right Words. (\$0.50 per 25 copies)
(Available in Spanish)

Numbers 1 through 10 -- (8 x 9 cards - \$0.10)

Some Signs You Can Learn. (\$0.25)

TTY Information Packet. (\$0.50)

You and Your Deafness. (\$0.25)

What Every Person Should Know About Heredity and Deafness. (\$0.50)

5. Hal-Hen Co.
36-14 11th Street, Long Island City, NY 11106

(free leaflet)

Accessories to Aid the Hard of Hearing.

6. National Association of the Deaf
814 Thayer Avenue, Silver Spring, MD 20910

(for purchase)

Hoeman, H. W., & Hoeman, S. Sign Language Flash Cards. (\$6.25)

N. A. D. Alphabet Cards. (\$4.00 per 100 copies)

7. New York League for the Hard of Hearing
71 West 23rd Street, New York, NY 10010

(single copies free)

May, J., & Green, R. R. Guidelines for Hearing Persons:
Learning to Live With the Hearing Impaired.

8. New York Telephone Co., Community Relations (for New York City residents)
10 Columbus Circle, Room 770, New York, NY 10019
(Residents outside NYC, contact local Bell Telephone business office.)

(free booklet)

Services for Special Needs.

9. Public Affairs Pamphlets
381 Park Avenue, South, New York, NY 10016

(for purchase)

Moffat, S. Helping the Child Who Cannot Hear. (\$0.50)

10. Regional Rehabilitation Research Institute on Attitudinal, Legal and
Leisure Barriers
1828 L Street, N. W., Washington, DC 20036

(for purchase)

Beyond the Sound Barrier. (\$0.50)

11. Sign Language Store
8753 Shirley Avenue, P. W. Box 4440, Northridge, CA 91328

(free catalogue)

Store catalogue (featuring many interesting materials for and
about the hearing impaired).

12. Virginia Council for the Deaf
4615 West Broad Street, Richmond, VA 23230

(single copies free)

These Are Your Neighbors. Do You Speak Their Language?

Break the Communication Barrier.

II. Multimedia Materials*

(The items listed are not all necessarily outstanding examples of multimedia materials. However each contributes something to understanding of the disability in the manner of the age group addressed.)

16 mm Films

ACROSS THE SILENCE BARRIER*(color, 57 minutes, 1978)

Studies some of the educational and cultural problems faced by two million deaf Americans.

Time Life
Rental: \$60.00

Gallaudet College
Rental: Free, 3/4" videocassette
only

DAVID (color, 19 minutes, 1974)

A teenager with a hearing impairment discusses his feelings about his hearing loss and special schooling. Professionals describe the education of the hard of hearing and the deaf.

Films Incorporated
Rental: \$30.00

DEAFNESS AND COMMUNICATION (color, 11 minutes, 1972)

Intended to educate the public on the nature and severity of hearing loss and the channels of communication open to the deaf.

NTID and Gallaudet College
Rental: Free

*The starred items on this list have not been reviewed but from the descriptive literature, they appear to be valuable.
Address list provided at end of multimedia section.

EARS AND HEARING* (black and white, 10 minutes, 1969)

Describes the physiology of the human ear by means of animated drawings and closeup photography of the ear as it is functioning. Explains three common causes of impaired hearing and demonstrates how a hearing aid is used.

Encyclopaedia Britannica
Rental: \$18.00

SUCB
Rental: Free

LISTEN (color, 28 minutes, 1973)

A documentary on hearing loss, its causes, psychological meanings and ways to cope with the problem.

Gallaudet College
Rental: Free

Total Communication Laboratory
Rental: \$15.00

MARY (People You'd Like To Know) (color, 10 minutes, 1978)

An 11 year old deaf girl wears a hearing aid, reads lips and attends a public school. She is seen in a language class, playing on the basketball team and interacting with her brother and sister at home.

Encyclopaedia Britannica
Rental: \$17.00

SILENT WORLD, MUFFLED WORLD (color, 28 minutes, 1966)

Describes the difficulties in speech, education and everyday living for the deaf. Explains the physiology of the ear, mechanics of hearing and some hearing disorders.

Gallaudet College & SETRC
Rental: Free

SWAN LAKE: CONVERSATIONS WITH DEAF TEENAGERS*
(color, 15 minutes, 1973)

Teenagers at the Swan Lake summer camp for deaf youth in northern Minnesota talk about what it is like to be deaf.

Gallaudet College
Rental: Free

Total Communication Laboratory
Rental: \$12.50

Filmstrip/Cassette

HELLO EVERYBODY...LET ME TELL YOU ABOUT MYSELF
Part 1: HEARING AND SPEECH IMPAIRMENT
(color, 10 minutes, 1978)

An 11 year old deaf boy describes some of his problems with hearing and speech, as well as how he uses finger spelling and signing.

SFA James Stanfield Film Associates
Purchase: \$35.00 (filmstrip, audio cassette and teacher's resource book)

Slide/Cassette

WE OVERCAME HEARING LOSS (10 minutes)

Features comedian Norm Crosby talking about his own hearing loss and other celebrities who overcame their hearing problems.

Better Hearing Institute
Rental: \$15.00

YOU AND YOUR HEARING (12 minutes)

Describes types and causes of hearing loss, warning signs, prevention and treatment.

Better Hearing Institute
Rental: \$15.00

Record

HOW THEY HEAR: THE SOUNDS OF ABNORMAL HEARING (1964)

Simulates the effects of a number of types
of hearing impairments.

Gordon N. Stowe
Purchase: \$11.00

Charts and Models

Carolina Biological Supply Co.
2700 York Road, Burlington NC 27215

The Human Ear

Wall Chart (\$7.95)
Model (\$4.50)
Transparency Kit (\$3.75)

Zenetron, Inc.
6501 West Grand Avenue, Chicago, IL 60635

Large Ear Chart (36" x 24") (\$3.50)

Note: To assure appropriateness for any individual class,
multimedia materials should first be previewed.

Sources of Multimedia Materials

Better Hearing Institute
1430 K Street, N.W., Suite 600
Washington, DC 20005

Gordon N. Stowe & Associates
3217 Doolittle Drive
Northbrook, IL 60062

Encyclopaedia Britannica
Educational Corporation
425 N. Michigan Avenue, Dept. 10-A
Chicago, IL 60611

SUCB *
(State University College at Buffalo)
Educational Communication Center
Media Library
1300 Elmwood Avenue
Buffalo, NY 14222

Films Incorporated
1144 Wilmette Avenue
Wilmette, IL 60091

Time Life Multimedia Distribution
Center
100 Eisenhower Drive
Paramus, NJ 07658

Gallaudet College-Division of Public
Services
7th Street and Florida Avenue, N.E.
Washington, DC 20002

Total Communication Laboratory
Western Maryland College
Westminister, MD 21157

NTID
(National Technical Institute for
the Deaf)
One Lomb Memorial Drive
Rochester, NY 14623

SETRC *
(Special Education Training &
Resource Center)
New York State Education Department
Film Library
Education Building Annex
Albany, NY 12234

SFA James Stanfield Film Associates
P. O. Box 1983
Santa Monica, CA 90406

*Serves New York State only.

VISUAL IMPAIRMENT

Prepared by:

Shirley Cohen
Anne L. Corn
Iris Martinez

with assistance from Nancy Koehler

For the Teacher

This mini-unit may be used as an expansion of the Sensory Perception Substrand of the New York State Education Department Health Curriculum. This substrand, which is taught in grades 7-9, is part of Strand I: Physical Health.

The lessons in the mini-unit may also be used to expand the New York State Education Department recommended science curriculum on junior high school level. One of the areas of study included in the recommended curriculum is Living Systems: Human Systems. The study of the senses is included in this area under the larger topic of the nervous system.

This mini-unit may also be used as an expansion of the New York State General Biology (non-regents) Curriculum in the 10th grade. Unit 2 of the state guide for this curriculum is Systems of the Body. This unit can appropriately include the lessons which follow.

The information on visual impairment which you should know before beginning to teach this unit is contained in fact sheets. In preparing to teach this unit it is recommended that you first read the fact sheets and then examine the lesson guides. Additional resources appropriate for teacher preparation are listed on the following page. A complete list of resources for students and teachers may be found at the end of the unit. You should send for the free pamphlets from The American Foundation for the Blind before you begin to implement the lessons. This literature can serve as a beginning reference file on visual impairment for your classes. It will also be needed for the group activities in Lesson III.

Lesson IV in this mini-unit is a central lesson for health education classes. If the teacher is extremely pressed for time, it may be omitted in science classes. While this mini-unit was written as four lessons, five class periods may be needed to implement all of the activities in it, particularly if films are shown.

Resources on Visual Impairment for the Teacher

Biographies

Krents, H. To Race The Wind. New York: Bantam, 1972. (paper)

This excellent autobiography of a young blind man is out-of-print but is still available in some book stores as well as libraries. Harold Krents is the person who served as an inspiration for the play/film Butterflies Are Free.

Sullivan, T. and Gill, D. If You Could See What I Hear. New York: New American Library, 1976. (paper)

Tom Sullivan is a bright, talented person who sometimes appears on television shows where he sings and plays his own musical compositions.

Booklets on Vision and Visual Disorders*

Blindness and Disorders of the Eye. Baltimore: National Federation of the Blind. (\$2.00)

The Eye and Your Vision. New York: National Association for the Visually Handicapped. (\$1.00)

Teaching about Vision. New York: National Society for the Prevention of Blindness. (\$2.00)

Facts about Blindness. New York: American Foundation for the Blind.

Overviews of Blindness and Limited Vision

Dickman, I. R. Living with Blindness.** New York: Public Affairs Committee, 1972.

Dickman, I. R. What Can We Do About Limited Vision.** New York: Public Affairs Committee, 1973.

*Addresses provided in resource list at end of unit.

**Single copies available free from The American Foundation for the Blind.

Lesson I

Theme: The visual process.
Problems in vision.

Objectives:

- .Students will be able to describe the process of seeing, naming the parts of the eye involved.
- .Students will be able to give the legal definition of blindness.

Introducing the Lesson

Read the passage below to the class.

Bobby Allen is an eight-year-old third-grader. He's lucky--at school neither the teacher nor the class thinks it's queer that he has to get out of his seat and go up to the blackboard to read what's there. Not even when he has to put his nose about two inches from the board. (Dickman, I. R. What Can We Do about Limited Vision? New York: Public Affairs Committee, 1973.)

Ask the students why Bobby Allen has to put his nose two inches from the board to read what's on it, and why the other students don't think that's queer. (Bobby Allen is seriously visually impaired. The other students know this and accept his actions as necessary.) Then state: "We rely on our vision almost constantly to give us information and help us function. There are over 15 million blind persons in the world who have had to learn to function without the use of sight. There are over 6 million people in the United States who have difficulty seeing even with glasses. We are going to study visual impairments and the functioning of people who have them."

Review of the Visual Process

Students should have been introduced to the study of the visual process in the upper elementary grades. However, unless this process was studied again during the current year, such a review should take place now.

You may use any materials available to you to review the visual process. The three references on vision and visual disorders (page 81) provide full information on this topic. On the page that follows is a simplified chart of the parts of the eye involved in vision. You may use the chart and the brief presentation which begins below to review the highlights of the visual process. If you choose to use this presentation, a transparency should be made of the chart so that it can be shown on an overhead projector. (The wall chart How We See from The National Society for the Prevention of Blindness may be used instead. This chart provides much more information.)

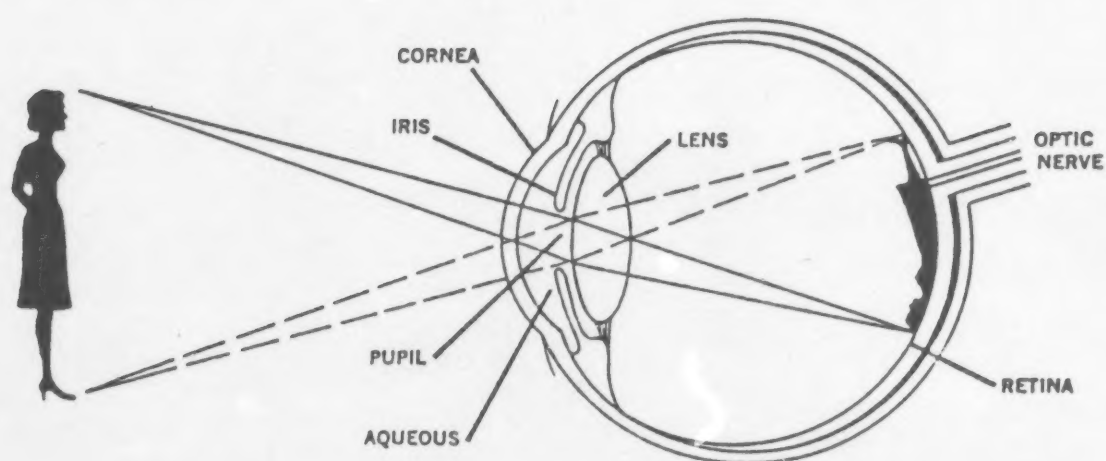
Teacher Presentation*

Vision is a process involving the eye and the brain. Let's look at this chart of the eye. (Point to the appropriate parts of the chart as you discuss them.) When light strikes an object in a person's field of vision--like this woman--the light rays are reflected from the woman to the other person's eyes. The light rays pass through the cornea, which is the transparent front window of the eye; through the aqueous, which is a watery liquid; through the pupil, which is an opening in the colored iris; and then through the lens. The lens operates like a camera lens. While a camera lens focuses light on a film, the lens of the eye focuses light on the retina. The retina is the rear inner lining of the eye. It contains optic nerve cells. The image from the light rays is conveyed (passed) through the optic nerve to the brain. When the image reaches the brain it is upside down, but the brain interprets the picture the correct way, and we see the woman right side up.

Common visual problems occur when the eyeball is too short, too long, or not curved perfectly. Who knows what causes nearsightedness? (Usually the eyeball is too long so that the light rays are focused in front of the retina instead of on it.) Who knows what causes farsightedness? (Usually the eyeball is too short so that light rays are focused behind the retina.)

*Based on The Human Eye and How We See, National Society for Prevention of Blindness, 1978.

THE HUMAN EYE



Taken from The Human Eye and How We See. National Society for the Prevention of Blindness, 1978.

There is a simple way to correct nearsightedness or farsightedness. What is it? (Using lenses, either in eyeglasses or contact lenses, to focus the image from the light rays on the retina.) However, there are other types of visual problems which are not so easily correctable or which are not correctable at all. We are now going to look at some of these problems and how they affect the functioning of the people who have them.

Vocabulary Study

Fact sheet #1.1 contains the chart on page 83 and definitions of the terms on this chart. Duplicate copies of this fact sheet for pupils and ask them to study it as a homework assignment.

Discussion Guide

Teacher Statements and Questions

1. We talked about nearsightedness and farsightedness. These are problems in visual acuity or sharpness of vision.

Sometimes a person's visual acuity is so poor that he is considered blind. Can some people who are considered blind actually see?

2. Then what does "blind" or "blindness" mean?

3. This statement is one part of the legal definition of blindness. Let's figure out what it means. Can anyone explain it?

4. Then what can some legally blind persons see? (Under what circumstances can they see?)

5. I left off part of the definition of legal blindness. Now I'm going to finish the definition.

Notes to the Teacher

Write the word "acuity" on the board as you say it.

Yes. Only a small proportion of legally blind persons are totally without sight.

Write the definition below on the board:

"central visual acuity of 20/200 or less in the better eye with correcting lenses..."

It means that the person can only see at 20 feet, with his better eye, and while wearing glasses, what a person with no visual problem can see at 200 feet. Central refers to vision used for objects directly in front of the person (in his direct line of vision).

Many legally blind persons who have visual acuity losses of 20/200 or more can see objects held extremely close to their eyes. The boy Bobby Allen referred to in the introduction to this lesson was probably legally blind. He could read the writing on the board if his eyes were only 3 or 4 inches from it.

Complete the definition on the board by erasing the "... " and adding:

"or fields of vision so limited that the widest diameter of visual field subtends an angle no greater than 20°."

6. Can anyone guess what this means?

(Probably not!)

7. It means that a person is also considered legally blind if he can only see objects that are almost directly in front of his eyes; if he can only see objects within a very narrow angle and has no peripheral vision.

Write the word "peripheral" on the board. Define it as the ability to see objects outside the direct line of vision (side vision).

Concluding Statement: "During our next class session you are going to experience what it is like to have various types of visual impairments."

Supplementary Activities

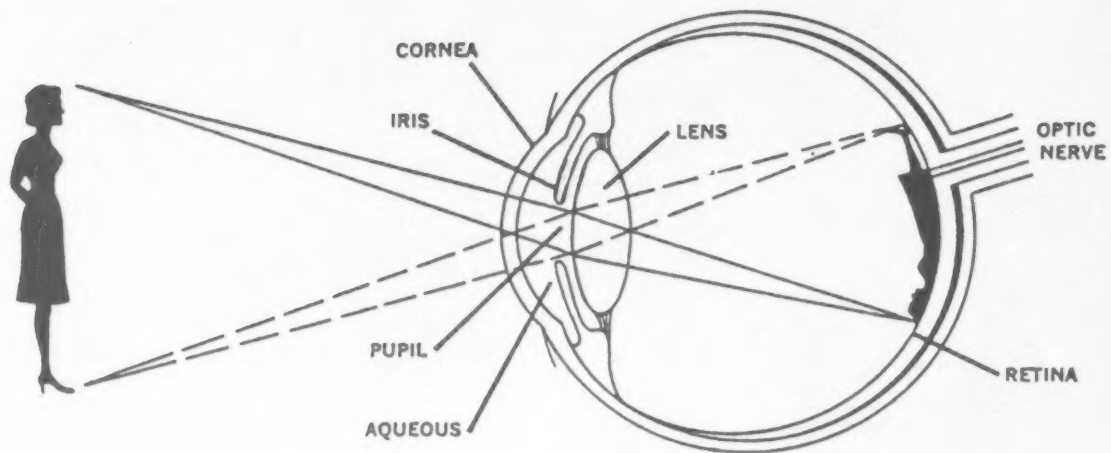
Composition

- (1) Interview a person
Ask about: How he/she became aware of the problem;
what is its cause; how it is being treated; how it
affects his/her functioning?

or
- (2) If you have a visual problem describe how it affects
you. How do you feel about it? In what ways do you
function differently because of it?

or
- (3) Interview an ophthalmologist or optometrist you know.
Ask about common visual disorders; how they are
diagnosed; how they are treated; and what the
effects (or outcomes) of these disorders and
treatment are.

THE HUMAN EYE



Vocabulary Review

1. cornea--the clear transparent portion of the outer coat of the eyeball,
2. aqueous (aqueous humour)--the clear, watery fluid behind the cornea.
3. pupil--the opening in the center of the iris which admits light.
4. iris--the round, colored part of the eye.
5. retina--the rear, inner lining of the eye which contains nerve cells and is connected to the optic nerve.
6. optic nerve--the special nerve of the sense of sight which carries messages from the retina to the brain.

Lesson II

Theme: Different types of visual impairments.

Objectives:

- .Students will report how it felt to temporarily function without vision. They will be able to describe at least three problems in functioning which they experienced under this simulated condition.
- .Students will be able to describe five common visual disorders and their effects on how a person sees.

Introducing the Lesson

The lesson will begin with simulations of different types of visual impairments. Tell the students: "We are going to feel what it is like to have a visual impairment." Ask for volunteers to begin the process. One student will simulate loss of peripheral vision; one student will experience a central visual loss; one student will experience poor visual acuity; one student will experience total loss of sight. As the students are engaged in the simulations ask them to report which activities are difficult for them to perform. For safety reasons, assign a partner to each student who is engaged in a simulation. The partner may also take notes on what the student in the simulation is experiencing.

Possible simulation techniques are given below:

- (1) Peripheral loss: (a) Cover a pair of glasses with opaque paper, making a pinhole in the center of each lens covering.
(b) Have the student hold an empty toilet paper or paper towel roll in front of each eye.
- (2) Central loss: Place a gummed circle in the middle of the lenses on a pair of old glasses, or tape a circle of opaque paper in the center of each lens.
- (3) Limited visual acuity: (a) Cover a pair of sunglasses or goggles with tracing paper or tissue paper. (b) Have the student wear a translucent blindfold.
- (4) Total loss of sight: Have the student wear an opaque blindfold.

Possible activities for the students to engage in during the simulation include: reading from a book; reading from the board; writing; walking to the teacher's desk; walking to a water fountain in the hall; tying one's shoes; getting a certain amount of change from one's purse or pocket; identifying students who are speaking; locating an item in one's desk or briefcase; combing one's hair.

The teacher may make a list of activities to be undertaken, duplicate it, and have the seeing student in each simulation pair read the activities one at a time to his "visually impaired" partner. As the partner engages in the activity he/she verbalizes his/her difficulties and feelings, which are recorded on the sheet next to the activity. A sample list is included on the next page.

After the simulations have been completed, bring the students together again and allow them to share their experiences.

Concluding Statement: "You have just experienced for a few minutes the types of problems which visually impaired persons have to deal with all the time. Let's look at who the visually impaired are and what causes visual impairments."

Simulation Activities

<u>Activity</u>	<u>Reactions</u>
1. reading from a book	
2. reading from the board	
3. writing a note	
4. walking to the teacher's desk	
5. walking to a water fountain in the hall (or to another classroom)	
6. tying one's shoes	
7. getting a specified amount of money (coins) from one's purse or pocket	
8. identifying two different students who are talking	
9. locating an item in one's desk or briefcase	
10. combing one's hair	

Causes and Types of Visual Impairments

If at all possible, borrow or rent the film below:

NOT WITHOUT SIGHT (color, 20 minutes, 1973)

This film defines the major types of severe visual impairments and illustrates their causes. It depicts how people with these impairments perceive the world and function.

Available for rental from The American Foundation for the Blind* for \$25.00.

Available for free loan from The President's Committee on Employment of the Handicapped.*
(Order far in advance of date to be used.)

If it is not possible to obtain the film referred to, then present the discussion which follows.

*Address in resource list at end of the unit.

Discussion Guide

Teacher Statements and Questions

1. How many of you know someone with a serious visual impairment? What kind of impairment does that person have? (Cues: Think about your grandparents. How many of you have a grandparent with a serious visual problem?)
2. Visual impairments are quite common, particularly among older people. More than half of legally blind persons in this country are over 65. Let's look at some of the conditions that lead to visual problems, and the types of problems involved.
3. Fact Sheet #2.1 contains a list of common visual disorders. Some of them are not serious and are easily correctable. Look at the list. Who can tell me which disorders are often correctable by simple means?
4. Let's look at each condition and talk about what it does to the way a person sees the world.
5. Albinism is a hereditary condition that involves lack of pigment (coloring) in part or all of the body. People who have this condition may have white hair and light skin. The iris of their eye looks white or pinkish. Does anyone know a person with albinism?

Notes to the Teacher

The point to be made is that visual impairments are fairly common, particularly among older people. Some of the students will probably have grandparents who had surgery for cataracts or who are experiencing diabetic retinopathy.

Display Fact Sheet #2.1 on the overhead projector or distribute copies to the students.

Astigmatism, myopia and hyperopia are often corrected by glasses.

Call on a student to read item #1 (the name of the disorder and its description).

If there is a student with albinism in the class do not make statement #5. Instead, use your judgment to decide whether it would be appropriate to ask the student to explain his condition. This is the preferred course. If you feel sure that this is not the right choice in a particular case, go on to statement #6.

- | | |
|--|---|
| <p>6. How does albinism affect what the person sees?</p> | <p>People with albinism are oversensitive to light and have lowered acuity. They may wear tinted lenses to reduce the amount of light entering the eye.</p> |
| <p>7. (After a student has read #2.) How many of you have astigmatism? How does it affect vision?</p> | <p>Astigmatism is a common condition. It results in a distorted image and lowered acuity. It is usually readily correctable by glasses or contact lenses.</p> |
| <p>8. (After a student has read #3.) Cataracts are one of the leading causes of blindness in the United States today. Does anyone know what the most common cause of cataracts is?</p> | <p>Aging is the most common cause of cataracts. Many older persons have this disorder.</p> |
| <p>9. What happens to vision when a person has a cataract?</p> | <p>Visual acuity deteriorates. The person may experience anything from very slight to total loss of vision in that eye.</p> |
| <p>10. Can anything be done to treat or remove this condition?</p> | <p>Yes--surgery to remove the cloudy lens followed by the use of strong contact lenses (or eyeglasses). Cataract surgery is one of the safest and most successful operations performed by doctors today. Many older people who have had poor vision for years, find themselves seeing the world anew after a period of adjustment following cataract surgery.</p> |
| <p>11. (After #4 is read.) Diabetic retinopathy is another leading cause of blindness in this country. This condition develops in some people who have had diabetes for a long time. Medical treatment can often slow the course of this disease, but cannot yet cure it. This is a problem that medical researchers are working on now.</p> | <p>Allow students to offer comments on anyone they may know who has this condition.</p> |

12. (After #5 is read.) Glaucoma is the other leading cause of blindness in the United States. It usually appears in people older than 35, and causes a slow loss of peripheral vision. Glaucoma is an excellent example of why people should have their eyes checked regularly. Medical treatment cannot restore sight lost because of glaucoma, but it can prevent further loss of sight.

13. (After #6 is read.) How many of you have hyperopia? How does it affect your vision?

Farsighted individuals may have to wear glasses for close work, i.e., "reading glasses." Headaches, blurred vision, or crossed eyes may result from severe hyperopia if the person does not wear glasses.

14. (After #7 is read.) How many of you are myopic? How does it affect your vision?

Myopic persons can usually see objects at close distances clearly, but cannot see distant objects clearly or at all. Sometimes children who are myopic don't even realize that this is not the way everyone sees. This is another example of why visual screening or testing should be begun at an early age.

15. (After #8 is read.) If both eyes do not move together and focus on the same point, a person may see different objects with each eye. Since the brain puts the two objects together, the result is double vision. If this goes on for a long time, the image from one eye will be suppressed, and that eye will stop functioning. About 5% of children have strabismus.

Some students may ask if this means that the person looks "cross eyed?" When a person has strabismus there may be an observable turning inward, outward, upward or downward of one eye.

16. Is there any way of treating strabismus?

Treatment for strabismus may include eye-glasses, eyedrops, eye exercises, patching of one eye, and, when none of the above is effective, eye surgery.

Concluding Statement:* "Today we have looked at some visual disorders and how they impair people's vision. We also experienced something of what it feels like to be severely visually impaired, although only for a few minutes in one setting. This is something which people with visual impairments experience all day, everyday, in all situations, over a long period of time. During our next class session we are going to study some of the techniques and aids which are used by blind and other seriously visually impaired persons to enable them to function as fully and as independently as possible."

*If any of the pupils refers to an eye disorder caused by too much oxygen given to premature babies, respond by saying that retrolental fibroplasia was a leading cause of blindness in persons born prior to the late 1950s. Today doctors know how much oxygen can be given to premature infants without damaging their eyes.

Supplementary Activities

Simulation

During the lesson students experienced very briefly, and in only one situation, what it is like to be visually impaired. Some students may want to try one of the simulations for a longer period of time in different types of situations. Students should always have a partner during these simulations for safety reasons. Immediately after the simulation is completed the student may record his/her experience on an audio-tape.

Fact Sheet #2.1Some Common Visual Disorders*

<u>Name</u>	<u>Description</u>
1. albinism	lack of normal pigment in the retina
2. astigmatism	irregular curve of the cornea or lens
3. cataracts	cloudiness of the lens of the eye
4. diabetic retinopathy	abnormalities in the blood vessels of the retina
5. glaucoma	excessive fluid build-up and pressure within the eye which cause deterioration of the optic nerve
6. hyperopia (farsightedness)	light rays are focused behind the retina, usually because the eyeball is too short
7. myopia (nearsightedness)	light rays are focused in front of the retina, usually because the eyeball is too long
8. strabismus	inability of both eyes to look directly at an object at the same time, as a result of imbalance of the muscles of the eye

*Selected 11st.

Lesson III

Theme: Aids and adaptive techniques for the visually impaired.

Objectives:

- .Students will be able to describe two types of optical aids for the visually impaired.
- .Students will be able to describe three types of non-optical aids for the visually impaired.
- .Students will be able to describe three adaptive techniques used by the visually impaired.

Introducing the Lesson

Ask the class: "How can a person get around when he can't see where he's going? How can blind persons do things for themselves if they can't see themselves or objects or places?" Allow the students to offer whatever information they have on the subject. They may refer to canes, seeing eye dogs, braille, the use of tape recorders, etc. Write these responses on the board. Close by saying: "These are some of the aids which blind people use. We are now going to take a closer look at aids and techniques for blind and visually limited persons."

Discussion Guide

Teacher Statements and Questions

1. First let's find out about aids available to improve the visual functioning of persons with limited or low vision. We have already discussed eyeglasses and contact lenses. Some people with limited vision may need more help in seeing than they can get from their glasses or contact lenses. If you wanted to see something far away what aid might you use?

Notes to the Teacher

"Low vision" is the term applied when a person is not blind, i.e., can use his/her sight, but does not have sufficient vision for many common activities and functions. The term "partially sighted" is also sometimes used to refer to persons with limited vision.

A telescope.

2. What is the disadvantage of using a telescope to see things?
3. Some people with limited vision use telescopic aids from time to time when they need to see specific distant things, like a street sign, a bus number or writing on a classroom chalkboard. A telescopic aid may be used for one eye or both eyes. It may be held in the hand or put in an eyeglass frame. It looks like a small telescope.
4. If you wanted to see a small object better, what would you use?
5. Some people with limited vision use magnifiers to look at small objects like coins, stamps, insects. These are magnifiers designed to meet the specific needs of the individual. They are sometimes placed in a stand and put over the object to be examined.
6. Aside from these optical aids, there are other kinds of aids and techniques which enable people with limited vision to function better. Can anyone think of an example? (Cue: The New York Times puts out a special large print edition.)
7. People with low vision can use their sight in a variety of situations. Blind persons may have to substitute another sense for the sense of sight in order to function. What does this mean? Give me an example.

It narrows the visual field or area you can see.

Write "telescopic aids" on the board as you say it.

Make sure the students understand that telescopic comes from telescope and means aids which operate as a telescope does.

A magnifying glass.

Write "optical aids" on the board. Make sure that the students understand that this refers to aids to improve vision.

(a) Large print books, newspapers, telephone dials and playing cards.

(b) Bookstands which bring written work closer to the reader's eyes without causing postural fatigue.

(c) Lamps with variable intensities which provide the additional lighting or dimmed lighting which a visually impaired person may need.

(d) Tape recorders which may ease the task of note taking for students with limited vision.

Reading through the sense of touch when braille is used. Relying on hearing, touch and movement (kinesthetic) cues to move about safely.

8. Blind persons have to use special techniques and aids to independently do some common things like cook, eat neatly and safely, select appropriate clothing, groom themselves attractively, travel, and study. The class is going to be divided into four groups. Each group will focus on the special aids and techniques used for one type of task. Think about which group you want to be in. Group 1 will study how blind people get around. Group 2 will study how blind people read and write. Group 3 will study how blind people prepare food and eat comfortably. Group 4 will study recreation.

Put the listing of groups on the board. Organize the class so that approximately the same number of students goes into each group. Distribute fact sheets and additional readings to each group. Have each group study the fact sheet, plan how the additional readings will be done*, and what kind of report will be made to the class. Encourage the students to think of ways of reporting other than straight presentations, e.g., Group 4 may want to show how games can be modified for the blind.

Some persons with limited vision may also need to use special techniques to perform common activities safely and adequately.

Concluding Statement: "Next week** we will share what we learned about aids and techniques to enable blind persons to live as independently as possible."

*The additional readings consist largely of pamphlets written for adults. Therefore, most of them will only be useful to good readers.

**You may want to postpone this reporting back session (Lesson IV) for a week to allow students more preparation time.

How Does a Blind Person Get Around?*

Blind persons learn to get around safely by developing and relying on their other senses; by being trained to use special techniques; and by using special aids.

Special training designed to help blind individuals get around is called orientation and mobility training. This training includes: The use of sensory cues; techniques of orienting oneself to the surroundings (understanding one's position in relation to other objects and people); techniques of moving about safely indoors; the use of a human guide; and techniques for traveling with a cane. Blind children and adults can be taught to use many sensory cues, including the following:

1. Foodstores such as bakeries, pizza restaurants and fish stores, have special odors that can serve as landmarks for the blind person.
2. A subway or railroad train has a special sound. It identifies a place and may serve as a means of transportation.
3. Echoes can tell a blind person whether he is in a small or large room.
4. Blind persons can learn to recognize a change in sound when they pass an open door.
5. The wind can tell a blind person when he has passed the protection of buildings and is in an open space.

Landmarks help blind people get around indoors. A landmark is a known object in a specific place that lets a blind person know where he is. This is why it is important not to move furniture around in a home or classroom without telling the blind individual.

Every blind person will use assistance from a sighted person at sometime. The proper use of a sighted guide is the first lesson in mobility training. The blind person walks about a half step behind the sighted person, and holds the sighted person's arm just above the elbow.

The aid most used for travel by blind persons is the long cane. Canes are individually prescribed to fit the person's height and walk. The blind person must be taught the correct technique of using a cane. Some blind persons prefer collapsible canes which can be folded up and put away when a sighted person guides the blind person, and when the blind person is riding on a bus or train.

Dog guides are another type of travel aid used by some blind persons. After the dog has undergone intensive training, it is matched to a blind person. Then the person and the dog train together for about four weeks. In order to obtain a dog guide a blind person must be between 16 and 55 years of age, be in good health, have good hearing and at least average intelligence, and be emotionally stable. Can you figure out why these qualities are essential?

Additional Readings (Written at an adult level)

American Foundation for the Blind brochures.

How Does a Blind Person Get Around?
Dog Guides for the Blind

The Seeing Eye, Inc.

Bonnie Tells Her Story As a Seeing Eye Dog (comic book)

*Based on How Does a Blind Person Get Around? New York: American Foundation for the Blind, 1975.

Fact Sheet #3.2*Reading and Writing without VisionI. Braille

Until 1824 there was no adequate system of reading and writing to educate blind children. Then Louis Braille, who was a blind student himself, devised the system now known as braille. Braille is a system of raised dots for reading and writing through the sense of touch. Braille is based on an arrangement of six dots, which is called the braille cell.

This is a braille cell. ⠠ Sixty-three different dot patterns can be formed by arranging the dots in different positions and combinations.

The letter "A" is represented as ⠁ "B" is ⠃ "C" is ⠉

Braille is written with a slate and stylus, or a braillewriter. The stylus is a pointed tool for making braille dots. The slate is a metal frame with openings through which braille dots are made. A braillewriter is a machine which types braille. Books and magazines in braille may be obtained from a library system for blind and physically handicapped persons operated by The Library of Congress.

II. "Talking Books"

"Talking books" are recordings of books and other reading materials on tapes or records. Blind persons may borrow these tapes or records from The Library of Congress Talking Book Program. This program also lends machines to blind persons on which to play these tapes and records, because talking books are recorded at speeds not on the standard tape recorder or phonograph. Talking books are very important for persons who become blind in later life and have not learned to use braille.

III. New "Reading Machines"

Research is underway to develop different kinds of machines to change print into speech or tactile (touchable) forms. Some machines which do this are already in use. However, they are still quite expensive and have other drawbacks. Optacon is a machine which changes print to letters that can be felt by the blind person with one finger. The Kurzweil Reading Machine changes print to speech. Until these machines become more practical, braille and talking books will still be the major reading aids for blind persons.

Additional Readings

American Foundation for the Blind

Products for People with Vision Problems (illustrated catalogue)

Braille Alphabet and Numerals (card)

Understanding Braille.

*Based partly on the booklet Understanding Braille from The American Foundation for the Blind.

Food Preparation and Eating

How does a blind person know when a cup is filled? How does he/she keep from pouring liquid over the top? How does he/she know what kind of food is in a box or can?

Blind people can live independently. Some blind individuals do all of their own cooking. There are many special aids which help make food preparation easier and safer for blind persons. There are special techniques which are taught to blind persons for this purpose too.

Suppose a blind woman was preparing her breakfast. She might be able to identify the coffee jar because there was a special place where she always kept it, and because she recognized its shape. Some blind persons use a special tape to make braille labels which they paste on food containers. Then they can read the name of the item with their fingers. This same woman who was making her breakfast would know when her cup was almost filled with coffee because she would keep one finger just inside the rim of the cup. As the cup filled up she would feel the heat from the coffee reaching her finger. Before leaving for work this woman might prepare her dinner. She might use a knife with a slicing guide to cut the meat, potatoes and carrots for her potroast into pieces of the right thickness. She might use an electric pot with braille temperature settings on it to cook her dinner; or she might rely on a timer with raised dots to alert her when her dinner was cooked. Her recipe might have come from a cookbook printed in braille.

Suppose a man who has recently become blind is having dinner with his wife at a restaurant. How does he keep from knocking over his glass of water? How does he know where on his plate the meat is? How does he know how large a piece of meat he has just cut? With the help of professionals who work with the blind, this man will have learned new techniques of locating his food and using utensils. His wife (or a friend) might help him by telling him where the food is placed. The placement of numbers on a clock can be used to explain where things are, e.g., the meat is at 12 o'clock; the potatoes are at 9 o'clock; the peas are at 3 o'clock. The man's wife might also tell him that his water is in a tall glass to the right of his plate. When his coffee is brought to the table, she will want to tell him this too. Such information will help prevent accidents at the table and may make the blind person feel more at ease.

Additional Reading

American Foundation for the Blind illustrated catalogue of Products for People with Vision Problems.

Fact Sheet #3.4

Recreation

Four years ago, Sonny Yates won a trophy in a skydiving competition, landing within six inches of the landing area's center after jumping from 7,500 feet....The greatest obstacle he has faced in his skydiving career, he says, was getting his license renewal...Because Sonny Yates is blind.*

What sports can blind persons take part in? Can they ski, run, swim, hike, bowl, go scuba diving, wrestle? Yes. Sometimes they need special equipment to do so. Sometimes they need the assistance of a sighted person. Sonny Yates was able to sky dive with the help of a radio unit in his helmet, and a sighted person in the airplane giving him information about how far he was from the ground.

How can a blind person bowl? With the aid of a bowling rail which the person holds onto as he gets ready to roll the ball. How does he know whether he has made a hit? He can tell by the sounds he hears. A sighted person will tell him how many bowling pins are down.

Can a young, blind child play ball? How could the child know where the ball is? Special balls with bells inside make it possible for young, blind children to play at catching or finding a ball. While they may never become baseball players, they can have fun.

Can a blind person play cards? Yes, with the help of braille cards. For those who can see a little, there are playing cards with giant numbers on them. There are also Bingo boards with braille numbers; Monopoly games with braille writing and raised boundaries around every property; and checker games with round and square checkers.

Picnics, shopping, concerts, movies and walks with friends are other activities that blind persons can enjoy in the company of friends.

Additional Reading

The American Foundation for the Blind catalogue of Products for People with Vision Problems.

*Dickman, I. R. Living with Blindness: New York: Public Affairs Committee, 1972, p. 1.

Supplementary Activities

Speaker

Invite a blind person or person with low vision to address the class. Ask the person to speak about special techniques and aids which he/she uses for mobility; reading and writing; food preparation and eating; recreation. Ask the person to bring in some of the adaptive aids and equipment he/she uses.

Film*

FINDING MY WAY (color, 8 minutes)

This film shows a blind boy learning to travel around his neighborhood independently, and working with special equipment in the regular classroom.

HAROLD (color, 10 minutes, 1978)

A 14 year old boy discusses how he overcomes his disability at school with the help of special equipment. He also talks about his favorite sports.

Problem Solving

1. Figure out one way by which a blind person can identify the color of clothing items.
2. Figure out two ways by which a blind student can keep notes on a teacher's lecture, and another way by which a visually limited student can take notes.
3. Figure out one way by which a blind person can identify bills (money) of different values, e.g., a one dollar bill, a five dollar bill, a ten dollar bill, etc.
4. Under what conditions can a blind person go bike riding?

*See resource list for distributors and rental fees.

Answers to Problem Solving

1. Clothing tags in which a color name is printed in braille can be sewn on items of clothing.
2. Blind--tape recording the lecture and taking notes from the tape later; using a slate and stylus to take notes in braille. Visually limited--write notes in large letters with a black marking pen.
3. When the blind person is given a bill he asks what its amount is and then folds it in a particular way. One dollar bills get folded in half lengthwise; five dollar bills in half sidewise; ten dollar bills are turned down at one corner.
4. Young blind children sometimes ride tricycles or bicycles in areas they know well, in the company of a sighted adult. For more extensive riding, and for adults, tandem bikes (bicycles made for two) are an excellent solution. The sighted person sits on the front seat and the blind person behind.

Lesson IV

Theme: What do you do when you meet a blind person?

Objective:

Students will be able to describe ways of interacting with blind persons helpfully and unhelpfully in three different situations.

Introducing the Lesson

This lesson should begin with a reporting session in which Groups 1-4 each explain and/or demonstrate to the remainder of the class what they have learned on the special topics they studied.

WHAT DO YOU DO WHEN YOU SEE A BLIND PERSON?

Borrow (or rent) the film with the above title. Order it as far in advance as possible. Loan and rental information is provided in the resource list at the end of this unit. This film illustrates, with humor, misconceptions which sighted people have about the blind. It also demonstrates correct and incorrect ways of relating to blind persons in a variety of situations.

You may introduce the film by telling the students that they will be watching a sighted man interacting with a blind man. The sighted man has many false ideas about blind people, so he does some pretty silly things when he tries to relate to the blind man. Ask the students to be alert to the false ideas (misconceptions) which the sighted man has.

After the film is over you may want to ask the students how they felt about the film and why. Then you might want to ask some of the specific questions below:

1. How do you think the sighted man felt when he first met the blind man?
2. What kinds of things did he do that were dangerous for the blind person? Uncomfortable for the blind person?

3. What did the sighted man learn about relating to a blind person?
4. How did the sighted man feel about the blind man at the end of the film? What made his feelings change?

If it is impossible for you to obtain the film recommended, you may use the activity which follows instead.

Below you will find a series of vignettes on the interaction of blind and sighted persons. Read one vignette. Then lead a discussion of it. After that, proceed to the next vignette. Each vignette illustrates lack of understanding and/or an inappropriate way of relating to blind individuals. Discussion questions are provided in the discussion guide which begins on page 111.

Vignettes*

I.

One afternoon I met Mr. P. at the corner of a busy intersection.

"Do you want to cross this street, Miss?"

"Yes, but I can do it myself."

"O. K. You can start across now." Then he shouted,

"No, don't go!"

I heard car tires screech.

Then he went into the street and stopped all the cars until I had used my cane to go across. When I reached the other side, I suddenly realized that in the confusion I had crossed the wrong way.

II.

My husband and I were eating lunch. He gave the waitress our order. The three of us were chatting in a friendly way. Then I must have done something which showed the waitress that I was blind. Immediately her treatment of me changed. She said to my husband:

"Would she like her salad cut up?"

"Would she like some more coffee?"

*Based on: See It My Way by M. Swieringa. Grand Rapids, MI: Institute for the Development of Creative Child Care, 1973.

III.

My sister and I were shopping for a gift. A voice said to me: "Hello, Marilyn, I haven't seen you for a long time. How are you?"

IV.

One day a friend said to me: "Marilyn, it is so lovely in your yard. The sky is blue. The sun is bright. The leaves are turning colors. And your rose garden looks beautiful."

Discussion Guide

<u>Teacher Statements and Questions</u>	<u>Notes to the Teacher</u>
1. (After vignette I has been read.) What did Mr. P. do wrong?	When the blind woman told him that she could cross by herself, he should have allowed her to. If she had wanted assistance, he should have offered her his arm and escorted her across instead of telling her when to go by herself. This only made her uneasy and confused. She must have been taught to cross that street by listening to traffic sounds.
2. Why did Mr. P. behave this way? What misconceptions (false ideas or beliefs) did he have about blind people?	He probably thought of blind people as helpless and dependent. Some blind persons are helpless and dependent, but most blind people are not. They can do many things by themselves.
3. (After vignette II has been read.) Why did this woman object to what the waitress said?	The waitress acted as if the blind woman was not a person. She stopped speaking <u>to</u> her and started speaking <u>about</u> her <u>instead</u> .
4. What misconception or false belief did this waitress have about blind people?	The waitress acted as if a blind person could not understand. Blindness does not interfere with hearing or understanding speech. Nor are blind people dumb or unable to speak for themselves.
5. (After vignette III is read.) What was wrong in this situation? What should the person have said that he/she didn't?	The person should have identified himself. The blind person cannot be expected to recognize the voice of every person he or she has ever met.
6. Why didn't the person identify himself or herself?	He was acting the same way he would to a sighted person who could see him. He didn't take into consideration the blind person's special need in this situation.

7. (After vignette IV is read.)
What was wrong about this?

Nothing. Most blind people will appreciate such sharing of experiences. Nor is there anything wrong with using words like "look" or "see." They are part of the vocabulary that everyone, including blind people, uses.

Concluding Statement: "The most important thing to remember about relating to blind people is to ask them if you're not sure of what to do, and to be sensitive to how they respond. Blind people are usually the best judges of what's right for them."

Supplementary Activities

Reading

American Foundation for the Blind.

What Do You Do When You See a Blind Person?

Problem Solving (Homework assignment or small group activity)

In each of the examples below describe what is wrong, why it is wrong, and what would have been right.

1. A blind person was waiting at the curb with his dog guide for the traffic light to change. A woman started petting the dog.
2. A blind girl was having lunch with a friend when a third person, who knew the friend, joined them. As soon as this third person realized the girl was blind, he began speaking to her in a very loud voice.
3. A student with limited vision is reading a comic book. An adult tells him that reading such poor print will ruin his eyes, and that he should save his sight by doing as little reading as possible.
4. A blind person was shopping with a friend in a department store. She was trying to decide which of two sweaters to buy, and was describing what she liked about each of them to her friend. Then she asked her friend to read the labels on each sweater to her. No one answered. A few minutes later her friend was back, saying that she had gone over to another counter to look at some scarves.

Answers for Problem Solving

1. A dog guide must disregard all outside interference and concentrate on his job. Petting is a distraction. It is unfair to the dog and dangerous to the master to distract the dog in this way. Only when the dog is not working and out of its harness should it be petted.
2. Most blind people have perfectly good hearing. Blindness does not cause hearing impairment. Shouting at a blind person doesn't make sense.
3. Sight cannot be conserved by not using it. Visual efficiency (maximum use of the sight one does have) can be developed only if the person uses his/her vision.
4. Her friend should not have left her without telling her what she was doing. The blind woman was undoubtedly embarrassed at the idea that she had been talking to herself. She may also have felt panic at being left alone in a place from which she could not get home independently.

Resources on Visual Impairment*

I. Literature

1. American Foundation for the Blind
15 West 16th Street, New York, NY 10011

(single copies free)

Dickman, I. R. Living With Blindness. 1972

Dickman, I. R. What Can We Do About Limited Vision? 1973

The One-Hand Manual Alphabet. (poster)

Products for People with Vision Problems. (illustrated catalogue)

When You Meet a Blind Person. (poster)

(up to 50 copies free)

Braille Alphabet and Numerals. (6½" x 3½" card)

Corn, A. L. & Martinez, I. When You Have a Visually Handicapped
Child in Your Classroom: Suggestions for Teachers. 1977

Dog Guides for the Blind. 1969

Facts About Blindness. 1974

How Does a Blind Person Get Around? 1975

Louis Braille. 1972

Understanding Braille. 1969

What Do You Do When You See a Blind Person? 1975

2. American Printing House for the Blind
1839 Frankfort Avenue, Louisville, KY 40206

(for purchase)

Braille Cards. (\$0.02)

*Prices quoted are as of 1979.

3. Library of Congress
 Division for the Blind and Physically Handicapped
 1291 Taylor Street, N. W., Washington, DC 20542
 (The address of the Regional Library for the Blind which serves
 your area may be obtained by writing to the Library of Congress
 at the above address.)

(single copies free)

Braille Alphabet and Numeral Cards.

Reading With Low Vision. 1972

4. National Association for Visually Handicapped
 305 E. 24th Street, New York, NY 10010
 (Materials about the partially sighted)

(single copies free)

Classification of Visual Impairment. 1973
 (multiple copies \$0.02)

Fact Sheets: Every Low Vision Patient Should Know ... 1975
 (multiple copies \$0.07)

Guide to Visual Aids and Illumination. 1974
 (multiple copies \$0.30)

Heartbreak of Being "A Little Bit Blind," The. 1972
 (multiple copies \$0.15)

Problems of the Partially Seeing. 1976
 (multiple copies \$0.25)

(for purchase)

The Eye and Your Vision. 1978 (\$1.00)

5. National Federation of the Blind
 1800 Johnson Street, Baltimore, MD 21230

(for purchase)

Blindness and Disorders of the Eye. (\$2.00)

Jernigan, K. Blindness-Concepts and Misconceptions. (\$1.00)

6. National Society for the Prevention of Blindness
79 Madison Avenue, New York, NY 10016

(single copies free)

The Eye and How We See. 1978
(\$5.00 for 100)

Hatfield, E. M. Why Are They Blind? 1975
(multiple copies \$0.30)

(for purchase)

How We See. 1976 (eye wall chart, 22" x 28")
(\$0.50; 10 for \$4.00)

Teaching About Vision. 1972 (\$2.00)

Understanding Eye Language. (1977) (\$0.30; 10 for \$2.50)

7. The New York Association for the Blind
111 East 59th Street, New York, NY 10022

(single copies free)

Braille. 1972 (information sheet)

Braille Card: When You Meet a Blind Person. 1975
(\$0.05 each after 5 copies)

Low Vision Service. 1976

Two Out of Every 1,000 People are Legally Blind.

8. The Seeing Eye, Inc.
Morristown, NJ 07960

(single copies free)

Bonnie Tells Her Story As a Seeing Eye Dog. 1963 (comic book)

Employing a Blind Person Who Uses a Seeing Eye Dog. 1972

If Blindness Occurs.

The Seeing Eye.

9. The Institute for Development of Creative Child Care
13920 Pine Lake Road, Cedar Springs, MI 49319

(for purchase)

Swieringa, M. See It My Way. 1973 (\$2.50 prepaid)
(Humorous booklet about relating to blind persons.)

10. Harper & Row
10 E. 53rd Street, New York, NY 10022

Wolf, B. Connie's New Eyes. 1976 (\$8.95)

(Photographs and text on how a dog guide is trained and works with a blind person. Appropriate for pupils with 5th and 6th grade reading levels.)

II. Multimedia Materials*

(The items listed are not all necessarily outstanding examples of multimedia materials. However each contributes something to understanding of the disability in the manner of the age group addressed.)

16 mm Films

BLIND SUNDAY (color, 31 minutes, 1976)

With his eyes covered to simulate blindness, a young man spends time with a blind high school girl and gains a feeling for what it is like to be visually impaired.

Time Life Multimedia

Rental: \$40.00

ELIZABETH (People You'd Like To Know) (color, 10 minutes, 1978)

Shows a bilingual 9th grader with low vision using visual aids and discussing her feelings about being partially sighted.

Encyclopaedia Britannica

Rental: \$17.00

FINDING MY WAY (color, 8 minutes)

Shows a blind boy learning to travel around his neighborhood independently, and using special equipment like a braillewriter in the regular classroom.

Films Incorporated

Rental: \$20.00

*HAROLD (People You'd Like To Know) (color, 10 minutes, 1978)

A 14 year old blind boy discusses how he overcomes his disability at school with the help of special equipment. He also talks about his favorite sports.

Encyclopaedia Britannica

Rental: \$17.00

*The starred items on this list have not been reviewed but from the descriptive literature, they appear to be valuable.

An address list is provided at the end of multimedia section.

Note. To assure appropriateness for any individual class multimedia materials should first be previewed.

*MAN AND DOG - THE SEEING EYE STORY (color, 28 minutes, 1972)

Tells the story of America's oldest and largest dog guide school through the experience of one of its graduates.

The Seeing Eye, Inc.

Rental: Free

NOT WITHOUT SIGHT (color, 19½ minutes, 1973)

Defines the major types of severe visual impairment and illustrates their causes. Depicts how people with these impairments function and actually see the world.

AFB

Rental: \$25.00

PCEH

Free loan (order far in advance)

THE SEVEN-MINUTE LESSON (color, 7 minutes, 1978)

Gives the sighted person the proper techniques to use when acting as a guide for a blind person.

AFB

Rental: \$10.00

WHAT DO YOU DO WHEN YOU SEE A BLIND PERSON? (color, 13½ minutes, 1971)

Misconceptions people have about the blind. With humor the film demonstrates the right and wrong way of dealing with blind adults in various situations.

AFB

Rental: \$20.00

PCEH and SETRC

Free loan (order far in advance)

Filmstrip/Cassette

HELLO EVERYBODY...LET ME TELL YOU ABOUT MYSELF

Part 2: VISUAL IMPAIRMENT

(color, 10 minutes, 1978)

Toni, a 15 year old blind girl discusses how she travels about, behaves with sighted persons and learns in school.

SFA James Stanfield Film Associates

Purchase: \$35.00 (filmstrip, audio-tape cassette and teacher's resource book)

Sources of Multimedia Materials

AFB (American Foundation for the Blind)
Film Librarian
Public Education Division
15 West 16th Street
New York, NY 10011

Encyclopaedia Britannica Educational Corporation
Preview/Rental Department
425 North Michigan Avenue
Chicago, IL 60611

Films Incorporated
1144 Wilmette Avenue
Wilmette, IL 60091

PCEH (President's Committee on Employment of the Handicapped)
Washington, DC 20210

Seeing Eye, Inc.
Office of Public Information
One Rockefeller Plaza, Suite 1912
New York, NY 10020

SETRC (Special Education Training & Resource Center) *
New York State Education Department Film Library
Education Building Annex
Albany, NY 12234

SFA James Stanfield Film Associates
P. O. Box 1983
Santa Monica, CA 90406

Time Life Multimedia Distribution Center
100 Eisenhower Drive
Paramus, NJ 07658

*Serves New York State only.

DISORDERS OF THE NERVOUS SYSTEM

Prepared by:

Shirley Cohen

with assistance from

Betty Pieper
Dorothy Sievers
Nancy Koehler

For the Teacher

The study of the nervous system is part of the New York State Education Department recommended science curriculum at junior high school level. One of the areas of study in the recommended curriculum is Living Systems: Human Systems. The nervous system is one of the topics in this area.

This mini-unit may also be used as an expansion of the New York State General Biology Curriculum at high school level. Unit 2 of this curriculum, "Systems of the Human Body," includes the study of the nervous system.

This mini-unit assumes that students have already participated in the basic study of the nervous system as outlined in New York State science curriculum guides referred to above. (See the reference to these guides listed on p. 123.)

The focus of the lessons in this mini-unit is on the functioning of persons with disorders of the nervous system. This focus necessarily involves not only a study of deviations in central nervous system structures and processes, but also at least a brief look at how the functioning of people with these disabilities is supported (or hindered) by societal interventions. Films were recommended in each of the lessons in this unit both because they portray characteristics of persons with nervous system disorders much more clearly than any explanation can, and because they address the societal structures--attitudes, barriers, technological advances--which affect the functioning of persons with disabilities so strongly.

Resources for the Teacher

Epilepsy Foundation of America
Eastern Regional Office, 4327 Memorial Drive, Suite K, Decatur, GA 30032

Answers to the Most Frequent Questions People Ask About Epilepsy. (10¢)
Ask About Epilepsy. (10¢)
Recognition and First Aid for Those with Epilepsy. (10¢)
What Everyone Should Know About Epilepsy. (10¢)

National Easter Seal Society for Crippled Children and Adults
2023 West Ogden Avenue, Chicago, IL 60612

(single copies free)

Points to Remember...When You Meet A Person Who Has a Disability.
When You See In Your School a New Student Who Has a Physical
Disability...

National Institute of Neurological Disorders and Stroke
Building 31, Room 8A16, Bethesda, MD 20014

(single copies free)

Epilepsy: Hope Through Research.
Spina Bifida.
Spinal Cord Injury--Hope Through Research.

The New York State Education Department, Bureau of General Education
Curriculum Development, Albany, NY 12234

General Biology, 1978.
Science Syllabus for Middle and Junior High Schools. Block B
Living Systems: Human Systems, undated.

Spina Bifida Association of America
343 South Dearborn, Suite 319, Chicago, IL 60604

Pieper, B. By, For and with Young Adults with Spina Bifida. (\$1.00)
Spina Bifida: The Second Most Common Birth Defect. (single copies free)

United Cerebral Palsy Association, Inc.
66 East 34th Street, New York, NY 10016

(single copies free)

Cerebral Palsy--Facts and Figures.

Cerebral Palsy--Hope Through Research.

Life Can Be Beautiful for People with Cerebral Palsy.

What Is Cerebral Palsy?

Biographies

Killilea, M. Karen. New York: Dell, 1960. (paper)

Valens, E. G. The Other Side of the Mountain.
New York: Warner, 1975. (paper)

Lesson I

Theme: Physical problems arising from disorders of the nervous system.

Objectives:

- .Students will be able to identify three major disabilities (or disability groups) which result from disorders of the nervous system.
- .Students will be able to define cerebral palsy, spinal cord injuries, and epilepsy.

Introducing the Lesson

Before beginning this lesson, prepare transparencies of Fact Sheet #1, or duplicate enough copies for use by students.

Begin this lesson with a brief review of the nervous system, using the New York State Education Department science curriculum guides and whatever textbooks or other instructional materials you have available to you. This review should include the following concepts:

- .The central nervous system is made up of the brain and the spinal cord.
- .The central nervous system is a two-way communication system in which nerves bring messages to the brain, and the brain sends orders to other parts of the body to start action.
- .The brain consists of three parts: the cerebrum, the cerebellum, and the medulla.
- .The spinal cord holds the nerves that branch out to all parts of the body. Reflexes originate in the spinal cord.
- .The transmission of impulses along nerves is an electrochemical phenomenon.

The above review should also include a description of how the parts of the nervous system interact to guide everyday actions.

Discussion Guide

Teacher Statements and Questions

1. We have examined how an intact nervous system operates. The nervous system is, however, subject to various kinds of disorders. Damage to the nervous system results in problems in functioning. What kinds of disorders involve damage to the nervous system?
2. How common are these types of disabilities?
3. This fact sheet shows some of the common disabilities which result from damage to the nervous system. Let's find out more about them.
4. How does a person get cerebral palsy? Can you catch it? Can you get it when you're a teenager? Is it inherited?
5. How does cerebral palsy affect a person's functioning?
6. Can cerebral palsy be cured?

Notes to the Teacher

cerebral palsy
 spina bifida
 epilepsy
 muscular dystrophy
 multiple sclerosis
 polio
 stroke
 spinal cord injuries

After the students have had a chance to voice their estimates, turn to Fact Sheet #1.

Have one student read statement #1 on cerebral palsy.

Cerebral palsy is defined as damage to the brain which may occur before, during or shortly after birth. It is not catching. It is not inherited. It often results from lack of oxygen to the fetus or newborn baby, premature birth, or virus disease in the mother during early pregnancy.

The effects may be very mild, like awkwardness in gait, or quite severe, affecting the ability to walk, talk, control arm and hand movements, etc.

No. There is no way known at present to correct the brain damage which causes cerebral palsy, but the effects of cerebral palsy can be lessened through training and in some cases medication or surgery.

7. Let's take a look at the next condition on the fact sheet.

Have a student read statement #2 on spinal cord injuries.

8. What are some of the leading causes of spinal cord injuries?

Some of the leading causes are automobile accidents, sports accidents (diving, skiing, football), and falls from heights. In its severe form, spina bifida, a birth defect involving an incompletely formed spinal column, causes spinal cord damage. Combat injuries and diseases such as multiple sclerosis also contribute to the number of spinal cord injuries.

9. What are the effects of spinal cord injury?

The effects depend on the level and amount of injury to the spinal cord. If the spinal cord has been severed or severely damaged, paralysis occurs from the point of injury.

10. Is there a cure for spinal cord injuries?

No. Medical technology does not yet encompass methods for regeneration of the human spinal cord. However, treatment advances have dramatically improved both the chances for survival and the average life span of persons with severe spinal cord injuries. Advances in technology, such as electrically operated wheelchairs and hand controls on automobiles have enabled people with spinal cord injuries to live more active lives.

11. Let's look at the third condition on the fact sheet.

Have a student read statement #3 on epilepsy.

12. What are the symptoms of epilepsy?

Recurrent seizures which can be so brief as to go unrecognized, or which can be quite severe. A seizure is a period of time during which a person loses control of his/her body. The person is usually unconscious during this time and remembers nothing about what happened afterwards.

13. What causes these seizures?

An extra discharge of electricity in the brain cells.

14. What kinds of problems may lead to epilepsy?

Severe injury to the head, lack of oxygen during the birth process, and prolonged, high fever are some of the causes.

15. Can epilepsy be cured?

The damage to the brain which causes the seizures that characterize epilepsy can not usually be corrected, but the seizures themselves can often be eliminated or greatly reduced through medication. In about 50% of the cases seizures can be completely controlled with anticonvulsant drugs.

Concluding Statement: "We have talked briefly about three major conditions, or groups of conditions, resulting from damage to the nervous system. At our next class session we will learn more about one of these conditions and how it affects the functioning of the people who have it."

Fact Sheet #1Some Major Disabilities Involving Damage to the Nervous System

1. Cerebral palsy--is a group of conditions caused by damage to the central nervous system either before, during or shortly after birth. The major characteristic of cerebral palsy is poor muscle control. About 700,000 Americans have cerebral palsy.
2. Spinal cord injuries--may result from accidents, disease or birth defects. Spinal cord damage often leads to paralysis. About 100,000 Americans have spinal cord injuries.
3. Epilepsy-- about 2,000,000 people in the United States have the condition called epilepsy. Epilepsy results from damage to the brain which may occur before, during or after birth. Epilepsy is characterized by recurrent seizures which result from extra electrical discharges in the brain.

Lesson II

Theme: The functioning of persons with epilepsy.

Objectives:

- .Students will be able to describe the perspectives of persons with epilepsy in regard to employment, marriage, parenthood and driving a car.
- .Students will be able to describe each of the three major types of epileptic seizures.
- .Students will be able to describe first aid treatment for persons having a grand mal seizure.
- .Students will be able to explain how people with epilepsy may be hurt by the misconceptions and prejudices of others toward those with epilepsy.

Introducing the Lesson

Before beginning this lesson make a transparency of Fact Sheet #2.1. Decide whether to make transparencies of the vignettes, duplicate copies of them, or have them read aloud. Duplicate Fact Sheet #2.2.

A. An excellent way to begin this lesson is by showing a film on epilepsy. Two films for this purpose are listed below. The discussion guide which is included in this lesson can be used as a general guide to discussion following the film showing. If it is not possible to obtain a film, begin the lesson with the vignettes which are provided in Section B.

I'M THE SAME AS EVERYONE ELSE
26 minutes, color, 1976 (\$25.00 rental fee)

International Rehabilitation Film Review Library
20 West 40th Street, New York, NY 10018

IMAGES OF EPILEPSY
18 minutes, color, 1975 (\$25.00 rental fee)

Colorado Epilepsy Association
1835 Gaylord Street, Denver, CO 80206

B. The vignettes which follow may be read to the class, shown as transparencies, or duplicated for distribution to the students. Whichever approach is used, have the students focus on one vignette and discuss it before moving on to the next one.

Harold*

Harold Brand was on a military plane when it crashed. Among his injuries was a blood clot on the brain. A few months later he showed the first signs of epilepsy. First he exhibited brief lapses of consciousness (petit mal seizures) to which he paid little attention. Later he began having convulsions (grand mal seizures). Harold Brand believed that the diagnosis of epilepsy meant he was "crazy." He began to drink heavily. He lied about his health status when he applied for jobs, and then was in constant fear of having a seizure. The next few years were a nightmare of lost jobs and long periods of unemployment.

Today Harold Brand is a production supervisor at a company which employs handicapped persons in the field of electronics. He is there by choice, after giving up a high-paying supervisory position at a major aircraft company, to return to the place where he first learned to live with his epilepsy. Harold Brand is also happily married and the father of four children.

*Based on excerpts from The Challenge,
(VA Extended Care Hospital, Los Angeles, CA),
Vol I, #11, July 29, 1971.

Nancy*

The summer that Nancy spent at home after her junior year at college was a very difficult time for her. Several times a week she would feel a sudden, sharp pain in her stomach and then experience the most dreadful fear. She would fling her arms around, smack her lips, sometimes fiddle with the buttons on her blouse, and often wander around.

When people talked to her during such an episode, she answered in a confused way; if they tried to restrain her, she pushed them aside. After a few minutes, she would let someone lead her to a couch, and she would take a brief nap. Afterward, she remembered nothing except the pain and the fear....

Nancy's trouble was diagnosed as psychomotor epilepsy.

*Based on Epilepsy: Hope Through Research, p. 11.

George*

George was a high school student. He was a good student and a good athlete. Without any apparent reason, his studies became harder for him and he appeared to have periods of inattention. One morning George suddenly let out a cry and fell to the floor in a convulsion. George's problem was diagnosed as epilepsy. It took months to establish the right combination and dosage of drugs for George. However, once this was accomplished, he did not have any further convulsions or periods of inattention, and he did well in his college studies.

*Based on an example given in Epilepsy: Hope Through Research.

Discussion Guide: Harold

Teacher Statements and Questions

1. What did you learn from this vignette?
2. Was Harold Brand an exception? Can most or only a small proportion of people with epilepsy live essentially normal lives?
3. Was Harold's success in finding employment an exception? Can most persons with epilepsy get jobs?
4. Was Harold's reaction toward himself, when he learned that he had epilepsy, unusual?

Notes to the Teacher

- Epilepsy can be caused by an injury to the head which leads to a blood clot on the brain.
- Epilepsy may not be apparent until several months after the injury has occurred.
- A person may exhibit more than one form of epilepsy.
- Epilepsy can cause shame and stress.
- Epilepsy can create employment problems.
- Epilepsy need not prevent someone from being successful at work and happy in his personal life.

It is estimated that 80 to 85% of persons with epilepsy can lead essentially normal lives. Fifty percent of persons with epilepsy can be kept symptom free through medication. In another 30 to 35% of cases the epilepsy can be kept under control through medication, with seizures being mild and infrequent.

Unemployment among persons with epilepsy is more than twice the national average. However, federal law now prohibits discriminatory behavior against persons with epilepsy in employment or any other federally supported area. Thus, employers cannot reject a job applicant just because he has epilepsy. They can reject him if his recent medical history shows that he would present a hazard if employed in a particular job.

No. There are many myths, misconceptions and superstitions about epilepsy. Harold's reaction, thinking he was crazy, was one such misconception. People who acquire epilepsy are not immune to common misconceptions.

Discussion Guide: NancyTeacher Statements and Questions

1. Psychomotor epilepsy is one of the three major forms of epilepsy. It is characterized by episodes of mental confusion and repetitious, purposeless actions. These episodes generally last only a few minutes.
2. Nancy developed psychomotor epilepsy. How do you think this affected her psychologically?
3. What kinds of questions about her future might Nancy have had after she learned that she had epilepsy?
4. What kinds of answers would Nancy find to these questions?

Notes to the Teacher

It frightened her. She probably had to deal with feelings of shame over her behavior. Her image of herself, her self-concept, may have been shaken.

Will I be able to be a mother?
Will my children have epilepsy too?
Will I be able to drive a car?
How will people feel about me?

Heredity appears to play only a minor role in epilepsy. However, before considering parenthood, a person with epilepsy and his/her mate should consult a geneticist

A person whose seizures are well-controlled can be a good mother. With medication (anticonvulsant drugs) 80-85% of persons with epilepsy can lead essentially normal lives, including parenthood.

A person whose seizures are entirely controlled for a certain length of time (usually one to two years) can obtain a driver's license.

The answer to the last question (How will people feel about me?) is extremely important. Some people may think of Nancy as odd and try to avoid her. This will make Nancy's adjustment to her condition much more difficult.

5. I'm going to read you a statement from a booklet on epilepsy.

"Many an epileptic child--and adult--has bitter problems springing not from the epilepsy itself but from the attitude of people close to him.... The trouble may be overprotection... Or it may be rejection... 'Epilepsy is the only common disorder I know,' declares one authority, 'where the sufferer is more handicapped by the attitude of society than by his disability.'"

What does this statement mean?
To what is it referring?

This statement addresses the fact that many people misunderstand epilepsy. They are frightened of it. They over-react to it. People with epilepsy may be avoided because of primitive fears about catching epilepsy or about the person with epilepsy being crazy or being possessed. Such rejection, or even the fear of it, makes life very stressful for people with epilepsy. Another damaging myth about epilepsy is that people who have this disorder are mentally retarded. (The fact is that people with epilepsy have the same range of intelligence as do other people, with some being far above average in intelligence.)

*Epilepsy: Hope Through Research, p. 19.

Discussion Guide: George

Teacher Statements and Questions

1. How did this vignette make you feel?
(Cue: Did it make you feel uneasy?
Why?)
2. Is it unusual for a person in good health like George to begin to exhibit symptoms of epilepsy?
3. Let's look at George's symptoms and find out more about the types of epileptic seizures he had. What were the first symptoms that George experienced?
4. What type of epilepsy is characterized by brief lapses of attention, sometimes accompanied by blinking or staring?
5. Why may this type of epilepsy interfere with school achievement?
6. Later George had a convulsion. What type of epilepsy is characterized by convulsions?

Notes to the Teacher

This vignette might arouse some anxiety because George was about the same age as the students and because there was no apparent reason for the appearance of the epilepsy.

About 2,000,000 people have epilepsy. In about 50% of the cases, a probable cause can be identified. In the other cases, no specific cause can be identified.

Lapses in attention. Difficulty with school work.

Petit mal epilepsy.

Write this term on the chalkboard.

Petit mal seizures may occur dozens of times a day, so that even if each one lasts only 10 to 20 seconds, the total time lost may be significant. In addition, because the person having petit mal seizures may not even be aware of what is taking place, he may not understand why he is having difficulty in concentration.

Grand mal epilepsy.

Write this term on the chalkboard.

7. What is a grand mal seizure like?
Has anyone seen a person having a grand mal seizure?
8. How do you think you would feel if you were present when someone had a grand mal seizure?
9. One of the ways of becoming less frightened about something is to understand it better and know how to react to it. Let's look at some guidelines on how to react to someone having a grand mal seizure.
10. Why should you keep calm?
- 11.
- 12.
13. Why should the person be turned on his side?
- 14.
15. Why would you want to place a folded handkerchief between the person's side teeth if you could do so without force?

The person falls to the ground. He may cry out. Convulsions follow, usually lasting for less than 5 minutes. The person may look blue and may salivate excessively.

Most people who have not witnessed a grand mal seizure before would be frightened. Some would experience revulsion. Some would be upset because they wouldn't understand what was happening or know what to do.

Display transparency #2.1.

Call on a student to read the first rule.

You do the person no good by getting upset, or trying to interfere with the seizure. It must be allowed to run its course. Only in the rare case when one seizure runs into another is medical treatment needed.

Have a student read rule #2.

Have a student read rule #3.

It will help his tongue in falling forward and the saliva in draining out.

Have a student read rule #4.

To keep the person from biting his tongue or cheek.

16. How might a person like George feel after having a grand mal seizure?

He might be tired and need a period of rest. He might also be very embarrassed at having his seizure witnessed by others.

17. How could you help?

Treat the person matter-of-factly after the seizure. Do not shy away from him. If a person wants to talk about his/her epilepsy, don't be afraid to respond.

Fact Sheet #2.1Helping a Person Who is Having a Grand Mal Seizure

1. Keep calm. You cannot stop a seizure once it has started. Do not restrain the person.
2. Clear the area around the person of objects which could cause him injury.
3. If you can, turn the person on his side.
(If not, wait until the convulsion has subsided to do this.)
4. Loosen the person's necktie and other items of tight clothing.
5. Do not force anything between the person's teeth.
A folded handkerchief may be placed between the person's side teeth if the person's mouth is open.

Fact Sheet #2.2Review of Facts about Epilepsy

1. It is estimated that about 2,000,000 persons in the U. S. have epilepsy.
2. Epilepsy is characterized by recurrent seizures.
3. Epilepsy is a symptom of a disorder in the brain. This disorder is usually slight and does not affect the person's intelligence or general health.
4. With medical care 50% of people with epilepsy can be entirely free of seizures.
5. With the help of medicines 80 to 85% of people with epilepsy can lead essentially normal lives.
6. There are three major types of epileptic seizures: petit mal, psychomotor, and grand mal.
7. Most epileptic seizures last only a few minutes.
8. Many persons with epilepsy have above average intelligence.
9. Persons with epilepsy have slightly better safety records than other workers.
10. Epilepsy is a disorder where the person may be more handicapped by the attitude of society than by his disability.

Lesson III

Theme: Cerebral palsy.

Objectives:

- .Students will be able to name three of the major causes of cerebral palsy.
- .Students will be able to describe the three major types of cerebral palsy.
- .Students will be able to identify some of the types of therapy used to reduce the debilitating effects of cerebral palsy.
- .Students will be able to describe one harmful misconception about cerebral palsy.

Introducing the Lesson

Before beginning the lesson, make a transparency of Fact Sheet #3.1.

A. A good way to introduce this lesson is to show one of the films about people with cerebral palsy listed below. The discussion guide which is included in this lesson can be used as a general guide to discussion following the film showing. If it is not possible to obtain a film, begin the lesson with the excerpt from a biography given in section B.

NOBODY TREATS ME DIFFERENT
8 minutes, color, 1977

The functioning and goals of a young boy with cerebral palsy are highlighted.

Films Incorporated \$20.00 rental
1144 Wilmette Avenue, Wilmette, IL 60091

Also available for free loan from: (Order far in advance.)

SETRC (Special Education Training and Resource Center)
New York State Education Department Film Library
Education Building Annex, Albany, NY 12234

THE PEOPLE YOU NEVER SEE
28 minutes, color, 1978

This film shows individuals with cerebral palsy
functioning in their communities.

Filmmakers Library \$40.00 rental
290 West End Avenue, New York, NY 10023

B. Read the passage below to the class after telling them that it is
taken from a biography written in 1952, and that it describes an incident
which occurs when a family checks into a tourist house for the night.

"We should like a room for the night," I said,
"if you can put a cot in our room for Karen."

"I think I can accommodate you."

She led the way into a tastefully furnished
living room and invited me to sit down. I
relaxed comfortable, propping Karen on my arm.
She was, at this time, three and a half years
old, small for her age, but still a good-sized
youngster.

"Why don't you put the child down, she must
be heavy," she inquired.

"That's all right," I said, "I'll hold her."

"Well, sit her in the chair next to you,"
she suggested. "I don't mind if she gets down
and runs around...."

"Karen can't get down and run around," I
explained. "As a matter of fact, she can't sit
up alone. Even when I'm holding her you'll
notice she had difficulty holding her head erect
for any length of time. That's why we're here.
We've come to see Dr. C. We hope he may be
able to help her."

"I suddenly realized that the woman was sitting
in an attitude of frozen attention. Her face grew
livid and she jumped to her feet. "Get out of
my house!" she shouted. "Only bad, dirty
people would have a child like that." (Killilea, M.
Karen. New York: Dell, 1960, pp. 60-61.)

Discussion Guide

Teacher Statements and Questions

1. Was this woman right?
Do only bad, dirty people have children with cerebral palsy?

2. Why did this woman think that was true?

3. What does cause cerebral palsy?

4. Can anything be done to prevent cerebral palsy?

Notes to the Teacher

No.

Many misconceptions abound about cerebral palsy. It is a feared condition. Out of ignorance and fear, people may ascribe blame to parents of children with this condition.

Cerebral palsy is caused by damage to the part of the brain which controls and coordinates the actions of the muscles. This damage may occur before, during, or shortly after birth. Some of the major causes of cerebral palsy are: certain virus infections in the mother during early pregnancy (including German measles); RH incompatibility; toxemia during pregnancy; prematurity; lack of oxygen to the brain during the birth process; head injuries; poisons; child abuse. (Some students may want to know how child abuse can cause cerebral palsy. Damage to the brain can result from severe blows to the head.)

Something can be done to prevent many causes of cerebral palsy now. Medical advances make removal of some of the causes of cerebral palsy possible. Females can be inoculated against German measles. The complications of pregnancy can often be avoided through adequate prenatal care and good diet. RH incompatibility can now be handled through immunization immediately after pregnancy (which prevents problems in future pregnancies) and through blood transfusions in the baby. Care in preventing accidental injuries and poisoning in babies will prevent many cases of cerebral palsy, as will elimination of child abuse.

5. Sometimes people avoid individuals with cerebral palsy, as if they had something that was catching. Is cerebral palsy catching?

No. It is not like a cold or the chicken-pox. It is not catching. It is a condition, not a disease. The characteristics of cerebral palsy are the effects of brain damage which took place earlier, often before birth.

6. What are some of the effects (or characteristics) of cerebral palsy?

The effects of cerebral palsy differ with the severity and type of condition. Sometimes cerebral palsy affects only one part or one side of the body. Sometimes it is very mild, and the only symptom may be awkwardness in walking. Sometimes it is very severe and the person may have difficulty in speaking, in picking up and holding objects, in maintaining a sitting position with supports.

7. There are three main types of cerebral palsy.

Show Fact Sheet #3.1.

(If it is not possible to make a transparency of this fact sheet, it can be written on the chalkboard.)

Have a student read the first type of cerebral palsy and its effects.

8. Spastic cerebral palsy is the most common type. Fifty percent of the people with cerebral palsy have spasticity. What kinds of activities might be difficult for a child with spasticity?

If severe, it may interfere with a child grasping a toy or feeding himself or walking.

9.

Have a student read the second type of cerebral palsy and its effects.

10. The second most common type of cerebral palsy is athetosis. What difficulties might a person with athetoid movements have?

A child with athetoid cerebral palsy makes large, irregular, twisting movements which he/she cannot control. Even in mild cases, spilling, dropping and knocking things over might be common. In severe cases, an effort to pick up a pencil may result in waving arms and facial grimaces. A child with this type of cerebral palsy will often have difficulty producing speech.

11.

Have a student read the third type of cerebral palsy and its effects.

12. Another major type of cerebral palsy is ataxia. People with ataxia walk as if they are trying to balance themselves on a moving surface, like a rolling ship. Their movements are unsteady. They fall easily.

13. People may have a mixture of types of cerebral palsy, and they may also have other types of impairments. Does anyone know what other kinds of impairments?

Visual impairments, speech impairments, and mental retardation are common in persons with cerebral palsy.

14. One of the characteristics of cerebral palsy that sometimes is a source of stress for people with this condition is slow and belabored speech. Why is this a source of strain?

It may be a source of stress because of the great effort required to communicate, but even more of a source of stress are the reactions of other people to this slow and difficult-to-understand speech. Sometimes other people are so impatient that they don't allow the individual with cerebral palsy the time to express his/her ideas. Sometimes people avoid individuals with cerebral palsy whose speech is slow and difficult to understand.

15. Why do persons with cerebral palsy often have speech problems?

Speech involves movements controlled by muscles. A person whose motor area of the brain is damaged may very well have difficulty making the movements necessary to produce speech.

16. What do you think about the intelligence of people with cerebral palsy? Are there people with cerebral palsy who are of superior intelligence?

About 50% of people with cerebral palsy are of average or superior intelligence.

17. Cerebral palsy cannot be cured but children with cerebral palsy can be helped to function better.
How? By whom?

Physical therapy helps children with cerebral palsy learn to control their muscles better. Braces help some children with cerebral palsy walk. Sometimes surgery is done to improve walking. Speech therapy helps many children with cerebral palsy learn to speak more clearly. Teachers and occupational therapists help individuals with cerebral palsy learn to use their hands better to perform such activities as dressing, eating, writing.

18. Is there any way that you can help other teenagers with cerebral palsy function better?

Yes. Students can help by accepting the young person with cerebral palsy as a peer.

Concluding statement: "There are many kinds of therapies to help young persons with cerebral palsy use their bodies better, but there is more to people with cerebral palsy than impairments. They are individuals who go to school, want to have fun, have friends, think about getting married, and plan for a vocation."

Supplementary Activities

Reading

Have students read the four items from the United Cerebral Palsy Association listed on page 124. Students should list three new pieces of information which they learned from their reading.

Writing

Ask students to write a list of guidelines on how to interact with people who have cerebral palsy. Have the students compare their lists to the ones prepared by The National Easter Seal Society (p. 123).

Resource Person

If there is a program for students with physical disabilities in the school, invite the teacher or physical therapist from this program to address the class. (The teacher in this program may be able to identify a student or adult with cerebral palsy who may be willing and able to talk to the class about his/her disability.) The presentation might include a display of aids for people with cerebral palsy, e.g., a wheelchair, a walker, a communication board, and a discussion of how they are used to assist the everyday functioning of persons with cerebral palsy.

Fact Sheet #3.1The Three Major Types of Cerebral Palsy

<u>Type</u>	<u>Effects</u>
Spastic (spasticity)	Tense, contracted muscles; difficult, inaccurate movements.
Athetoid (athetosis)	Constant, uncontrolled motion of head and limbs.
Ataxic (ataxia)	Impaired balance and uncoordinated movements.

Lesson IV

Theme: Spina bifida and other spinal cord injuries.

Objectives:

- .Students will be able to describe impairments in functioning caused by spinal cord injuries.
- .Students will be able to name and describe some of the special aids and techniques used by persons with spinal cord injuries to carry out everyday activities.
- .Students will be able to identify some of the common barriers to independent living placed in the path of persons with spinal cord injuries.

Introducing the Lesson

Before beginning this lesson make a transparency of Fact Sheet #4.1, or make copies of it for distribution to students.

A. A good way of introducing this lesson is to show one of the films listed below on spina bifida. The discussion guide which is included in this lesson may serve as a general guide to discussion after the film showing. If it is not possible to obtain one of these films, then begin the lesson as indicated in section B.

I'LL FIND A WAY
26 minutes, color, 1978

A nine year old girl with spina bifida talks about how she functions and likes to be treated.

The Media Guild \$40.00 rental
P. O. Box 881, Solana Beach, CA 92075

REACHING
5½ minutes, color, 1976

A young man with spina bifida works as a telephone fraud investigator and is active in sports.

International Rehabilitation \$15.00 rental
Film Review Library
20 West 40th Street, New York, NY 10018

LAURA(Special People)
filmstrip/cassette, 16 minutes, color, 1978

A 26 year old teacher with spina bifida shows how she solves her special problems and shares her positive feelings about life with her pupils.

Julian Films
41 Riverside Avenue, Westport, CT 06880

B. Read the vignette* which follows to the class.

Maureen Brower is eight years old. She is blond, blue-eyed and has a cute shy little smile that animates her entire face. April 29 was the date of her First Communion, a big day in her life during which she made it all the way up the side aisle of the church by herself. She was wearing a \$2,000 steel brace that starts at her feet and continues upward, grasping her legs, supporting her back until it fits collar-like around her neck. With a crutch under each arm, it took Maureen seven minutes to pull herself to the front of the church. "My parents and grandparents said they were proud of me. And I'm proud, too," said Maureen. Maureen has spina bifida.

*Based on an example in "The Nursery's Two Cruellest Words: Spina Bifida" by John Grossman, reprinted by The Spina Bifida Association of America.

Discussion Guide

<u>Teacher Statements and Questions</u>	<u>Notes to the Teacher</u>
1. Spina bifida is one type of spinal cord injury. Who can write spina bifida on the chalkboard?	If no student can write it, then do so yourself.
2. Each year over 6,000 babies are born with this condition, yet very few people know about it. Why?	Until recent years, many children with the most severe form of spina bifida died in infancy or early childhood. In its mildest form spina bifida usually goes unrecognized.
3. There are three forms of spina bifida. About 10% of the population has the mildest form of spina bifida, often without knowing it. Let's find out more about this condition.	Display Fact Sheet #4.1.
4.	Have a student read the definition of spina bifida on the fact sheet.
5. Usually during about the 12th week of pregnancy the spine of the fetus (developing baby) closes. In infants with spina bifida the bony structure of the spine doesn't close. Why? What causes spina bifida?	The cause or causes of spina bifida are still unknown.
6.	Have a student read item #1 under types on the fact sheet.
7. How is it known that about 10% of the population has spina bifida occulta if it often goes unrecognized?	This is an estimate based on cases where it is identified later on in life through x-rays taken for other reasons, or through examinations undertaken for other reasons.
8. This is what the spine usually looks like. In spina bifida occulta there is a very small opening in the spine	Display Fact Sheet #4.2. Point to the "normal spine." Point to the spina bifida occulta illustration.
9.	Switch back to Fact Sheet #4.1. Have a student read item #2 under types on the fact sheet. (Go over the pronunciation of this word, me-NIN-go-cele, with the class and point out its derivation, i.e., from the word "meninges" which is the coverings of the spinal cord.)

10. Let's look at an illustration of a meningocele.

Here is a meningocele protruding from the spinal column. This form of spina bifida is usually identified soon after birth. What is done about it?

11. What are the effects of this type of spina bifida?

12.

13. Let's look at the illustration of this form of spina bifida. Here are the nerves in the meningocele.

14. This is the most serious form of spina bifida. It is the type that Maureen has. What kinds of impairments in functioning do you think it causes?

15. What happens to the baby with meningocele as he or she grows into a child? How does he/she manage to function? What kinds of help may such a child need?

Switch back to Fact Sheet #4.2.

Surgery is often performed on the infant to eliminate the bump or sac and prevent the condition from worsening.

Since the nerves themselves are still intact, there is generally no impairment in functioning.

Switch back to Fact Sheet #4.1.
Have a student read item #3 under types on the fact sheet. (Go over the pronunciation, me-NIN-go-MY-e-lo-cele, of this term.)

Again display Fact Sheet #4.2.

In this form of spina bifida the nerves may not have developed normally below the opening in the spine. Even though the nerves will be positioned correctly through surgery, they may never function adequately. There may be paralysis of the lower part of the body, or weakness of muscles.

On-going medical care is important to prevent infections. Physical therapy may be needed to help the child make better use of weakened muscles, and to prevent deformities from developing. Paralysis of the lower part of the body causes many complications. Braces and crutches may be used to aid walking. Wheelchairs may be used when walking with aids is not possible.

Note: The teacher will have to use his/her judgement in each situation as to whether to refer to the fact that an individual with paralysis of the lower body probably does not have voluntary control of bowel and bladder movement. However, if a student should ask a question about this, the teacher should answer it in a straightforward manner. "Bladder and bowel control involve the transmission of messages from the brain to muscles in the lower body. If the nerve pathways to the lower part

16. Spina bifida is one form of spinal cord injury that sometimes leads to paralysis. There are other types of spinal cord injury that lead to paralysis. Whether paralysis comes from spina bifida or some other cause like an accident, it involves similar problems.
What are some of these problems?

17. Why is this a situation which concerns all of us?

of the body are damaged, then the muscles which are involved in bladder and bowel control cannot be directed by the brain. However, techniques have been worked out for management of this problem."

(For more information about this topic the teacher should read By, For and With Young Adults with Spina Bifida, a reference listed on page 123.)

Getting around. It is often impossible for a person in a wheelchair to get where he wants to go because of architectural barriers, e.g., steps to building entrances, street curbs, inaccessible buses and subways.

Getting a job. Employers are sometimes reluctant to hire persons with disabilities even when they are perfectly competent to carry out work tasks.

Social relationships. Many people still avoid close contact with disabled people out of ignorance, fear and superstition. Others do not see beyond the disability to the rest of the person. Persons with physical impairments sometimes don't seek close social contacts with others because they fear rejection.

The number of persons with spinal cord injuries is increasing, partly as a result of medical advances which have improved the survival rate in such cases. Few of us will go untouched by this situation. Many of us already have relatives or friends with spinal cord injuries. Others of us will experience them ourselves.

Concluding Statement: "Today medical science has made it possible for an increasing number of persons with spinal cord injuries to survive and function. The next challenge is to overcome the physical and social barriers which society puts in the way of a full life for people with these impairments."

Supplementary Activities

Reading

1. Read the biography listed below of a person with a spinal cord injury.

Valens, E. G. The Other Side of the Mountain.
New York: Warner, 1975. (paper)

2. Read one of the following pamphlets (taken from the reference list on p. 123) and list three new facts you learned about the disability with which it deals.

Spina Bifida.
Spinal Cord Injury--Hope Through Research.

3. Write for free literature about architectural barriers which interfere with the mobility of people with spinal cord injuries. Make a brief report to the class on what you have learned.

For free literature write to:

Architectural and Transportation Barriers Compliance Board
Room 1014, HEW, Switzer Building, 330 C Street, S. W.
Washington, DC 20201.

Fact Sheet #4.1Spina Bifida

Definition: An opening or cleft in the spine resulting from the failure of the bony structure to come together.

Types

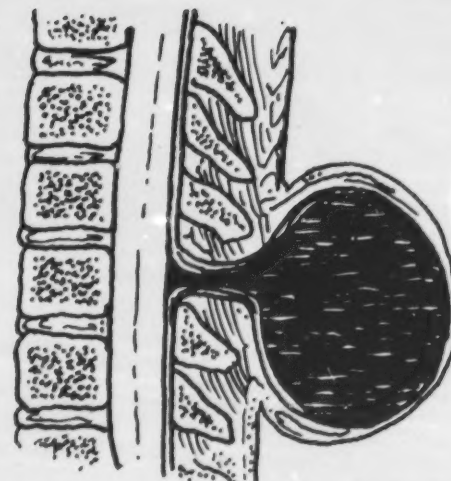
1. Spina bifida occulta--a small opening in the spine which generally causes no symptoms and often goes undetected.
2. Meningocele--an opening in the spine through which some of the coverings of the spinal cord protrude. The baby with meningocele may look as if it has a bump on its back.
3. Meningomyelocele--an opening in the spine through which some of the nerves of the spinal cord protrude. The baby will have a sac on its back in which there are nerve coverings, nerves, and nerve fluid.



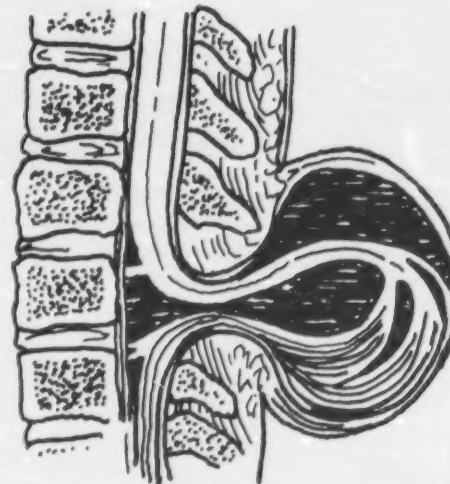
NORMAL SPINE



SPINA BIFIDA OCCULTA



SPINA BIFIDA WITH MENINGOCELE



SPINA BIFIDA WITH MENINGOMYELOCELE

SCOLIOSIS: A DISORDER OF THE SKELETAL SYSTEM

Prepared by:

Shirley Cohen

with assistance from

Dorothy Sievers

For the Teacher

The study of the skeletal system is part of the New York State Education Department recommended science curriculum at junior high school level. One of the areas of study in the recommended curriculum is Living Systems: Human Systems. The skeletal system is one of the topics in this area.

Scoliosis screening has been mandated in schools within New York State for students aged 11-16. It is the preteen and early teen years when most cases of scoliosis first appear. Alertness to the possibility of scoliosis, and early treatment of it, will prevent most cases of severe scoliosis which impair health. For this reason, the study of scoliosis in health education classes at junior high school level appears to be very appropriate.

Scoliosis is a lateral curvature of the spine. It is not a disease. It is, however, a condition which may have a hereditary basis, as it often runs in families.

Scoliosis is a common condition. About 10% of adolescents have some degree of scoliosis. Sometimes the condition is mild enough not to cause difficulty for the individual or require treatment. About 25% of the time medical treatment is necessary.

Moderate to severe scoliosis may not only be a serious health problem, but may cause adolescents severe emotional stress as well. Scoliosis may have cosmetic effects that are considered unattractive in our society. Thus, the adolescent with a spinal curvature may have to struggle with feelings of inferiority about his/her body at a time when physical appearance is probably at the height of its importance to the individual. One of the major treatment approaches to scoliosis is the use of a brace. Braces can often stop the advancement of a spinal curvature before it reaches the severe stage. It may also, to some degree, correct a curve which has already developed. However, adolescents may be quite sensitive about the effect of a brace upon their physical appearance. The lesson which follows is designed to help students understand scoliosis better. However, it is also designed to help students deal with the affective aspects of scoliosis. In implementing the activities described in the lesson, the teacher must be sensitive to the feelings of students in his/her class who have scoliosis. The participation of such students and the sharing of their experiences with the class should be supported but not forced.

While the activities which follow are included in one lesson, some teachers may find that one-and-a-half or two class sessions are needed to implement the material fully.

Resources for the Teacher

The New York State Education Department
Bureau of General Education Curriculum Development, Albany, NY 12234

Science Syllabus for Middle and Junior High Schools.
Block B. Living Systems: Human Systems, undated.

The New York State Education Department
Division of School Health and Pupil Personnel Services, Albany, NY 12234

Scoliosis Screening in Schools.

The Scoliosis Association, Inc.
One Penn Plaza, New York, NY 10001

Scoliosis. (single copies free)
Scoliosis Screening. (single copies free)

Scoliosis Research Society
430 North Michigan Avenue, Room 800, Chicago, IL 60611

Scoliosis...What's That? (single copies free)
Scoliosis: A Handbook for Patients.

Lesson Plan

Theme: Scoliosis--A common disorder of the skeletal system.

Objectives:

- .Students will be able to define the term "scoliosis."
- .Students will be able to describe the symptoms of scoliosis.
- .Students will be able to describe how scoliosis can be detected in its early stages.
- .Students will be able to describe methods for treating scoliosis.
- .Students will be able to explain why it is important to identify scoliosis during its early stages.
- .Students will be able to describe some of the feelings which adolescents with scoliosis may experience because of this condition.

Introducing the Lesson

Before beginning this lesson make transparencies of Fact Sheets #1.1, 1.2 and 1.3.

Begin the lesson with a brief review of the skeletal system. This review should include the following concepts:

- .The skeleton is the body's framework. It provides support for the body's organs and the means for the body's locomotion.
- .The skeletal system consists of bones, cartilage and ligaments.
- .The skeleton is composed of the skull, the spinal column, the breastbone and ribs, and the limbs.

Closing statement: Conclude the review of the skeletal system with the following statement: "Sometimes there are problems in the development of the skeletal system. Today, we are going to look at one very common condition which is caused by a problem in the development of the skeletal system."

Discussion GuideTeacher Statements and Questions

- 1.
2. What is scoliosis?
3. What does this drawing illustrate?
(What's wrong with this spinal column?)
4. What might an individual with a spinal column like this look like?
5. How do you get scoliosis? (Is it a disease you can catch?)
6. How common is scoliosis?

Notes to the Teacher

Write the word "scoliosis" on the chalkboard. Ask a student to read the word.

Scoliosis is a lateral or sideways curvature of the spine.

Display Fact Sheet #1.1.

(If it is not possible to make a transparency, walk around the room displaying the fact sheet until all students have seen it.)

Fact Sheet #1.1 shows a spinal column with a lateral curve, as might be found in scoliosis.

One shoulder (the right one) would be slightly higher than the other one. The hip alignment from side to side will be uneven, with the left side higher than the right. There may be a protrusion on the right side of the back, i.e., the right shoulder blade might be prominent.

Scoliosis is not a disease that you catch from other people. It doesn't develop because of something you did, or didn't do, like not standing straight. While the cause or causes of most cases of scoliosis are unknown, there appears to be a hereditary basis for most instances of scoliosis.

Very common. About 10% of adolescents have some degree of scoliosis. (This means that about 1,000,000 youngsters in the United States have some degree of spinal curvature.) About 2½% of adolescents have scoliosis which requires medical attention.

7. How is scoliosis usually noticed?

In some states there are regular scoliosis screening programs conducted in the schools. Since 1979 New York State has had a mandatory scoliosis screening law* as does New Jersey and the State of Washington. When scoliosis screenings are not conducted in the schools, scoliosis is often first noticed when clothes don't fit right. Sometimes skirts are higher on one side than on the other; pants need larger hems on one leg than on the other.

8. If you wanted to do a simple check for scoliosis at home what might you look for?

If your school has recently completed a scoliosis screening of all students, you may chose to eliminate this activity.

Display Fact Sheet #1.2 on an overhead projector, or distribute copies of Scoliosis, a flyer from the Scoliosis Association, Inc. which includes a "Simple Home Test for the Early Detection of Scoliosis." Go over each item on this test with the students. Point out the following:

.This test calls for the involvement of two persons--the adolescent and a second person who serves as an observer.

.The bent over position is the most important position for identifying early scoliosis. (This position highlights small deviations in the thoracic region.)

9. What should you do if you find that you have any of the signs which this test checks for?

A physician should be consulted.

10. What would a physician then do?

The physician will probably do the same kind of observations as were indicated on the home test. Sometimes what the physician will find is a mild postural (functional) deviation that does not involve the spine and is, therefore, not medically significant. If the physician's observations lead him to think a spinal curvature is present, upright x-rays of the spine will be made. (An orthopedist should be involved at this point.)

*Schools in New York City, Buffalo and Rochester are not covered by this requirement.

11. How is scoliosis treated?

(a) Minor curves are observed by the physician regularly. X-rays are generally taken every 3 to 6 months to determine whether the curve is progressing (becoming greater). As long as there is no progression, treatment is unnecessary.

(b) Moderate curves are generally treated by bracing.

(c) Serious curves, and moderate curves which cannot be effectively treated through bracing, may be treated through surgery.

12. Let's take a look at a brace often used to treat scoliosis.

Show Fact Sheet #1.3--Milwaukee brace.

(If you could not make a transparency, walk around the room displaying it until all students have had a chance to see it.)

13. This is a Milwaukee brace. It is the most common type of brace for scoliosis. Braces are generally worn 23 hours a day until the individual has achieved most of his/her growth. What do you think a brace might do for someone with scoliosis?

Braces prevent the advance (worsening) of the spinal curvature. They may also correct an existing curve to some extent, if growth is still taking place. This is why it is important to identify scoliosis and begin treatment before the individual completes his/her growth.

14. How do you think a person about your age might react to learning that she has scoliosis and needs to wear a brace? How do you think you might feel?

Scoliosis is much more frequent in girls than boys, which is why the pronoun "she" was used.

Some students may react with: embarrassed; frightened; worried about what others will think; upset about not being able to wear certain styles of clothes; concerned about not being able to perform certain activities such as skating, bike riding, dancing.

15. Many adolescents would at first be upset and frightened. There's a lot to get used to and to learn how to handle; but most young people do learn to cope with this situation.

Encourage student contributions about personal experiences.

Concluding statement: "Scoliosis is a common condition which can be treated and prevented from becoming serious if it is identified early. Today braces are helping many young people with moderate degrees of scoliosis from developing serious health impairments."

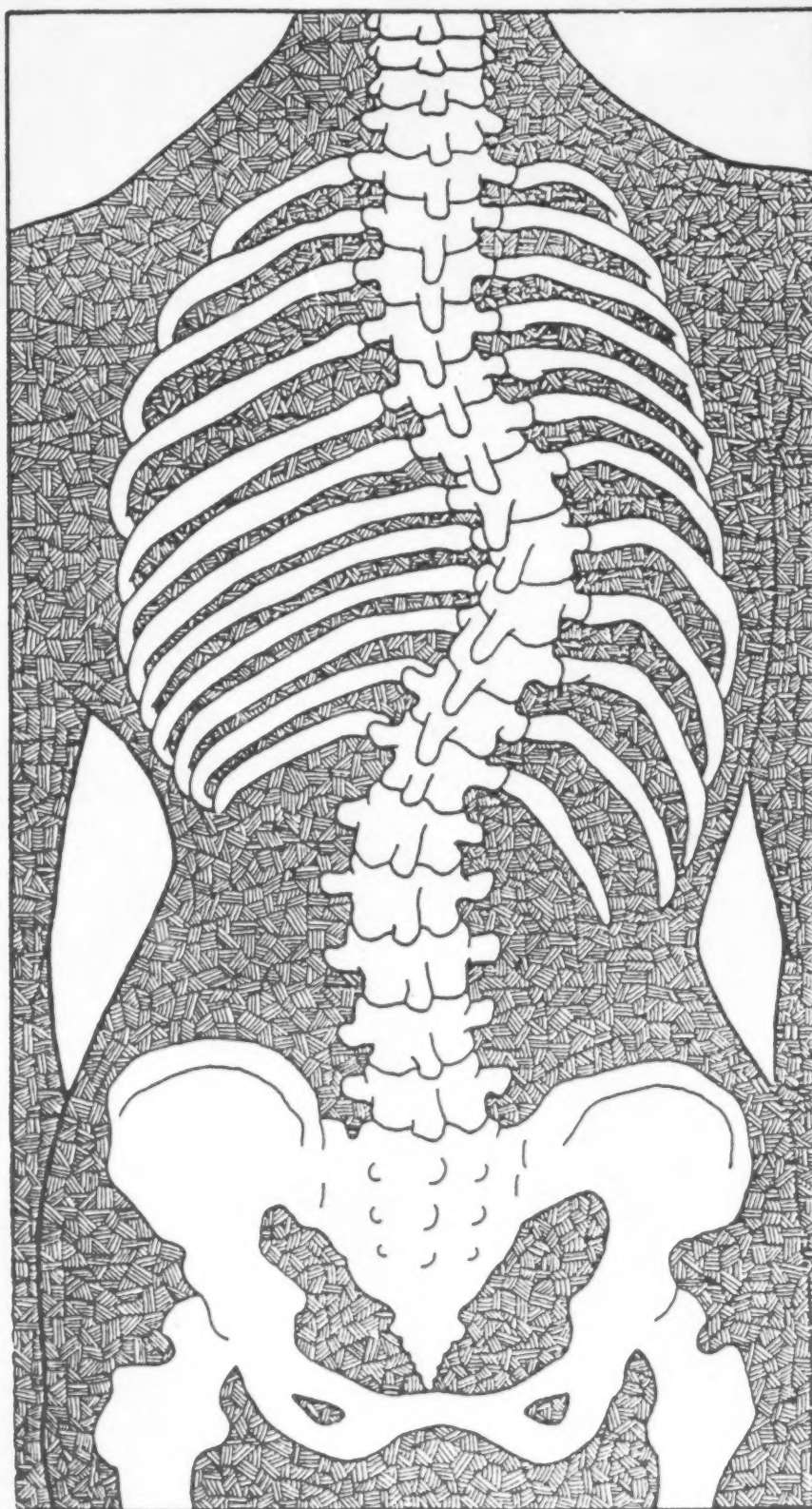
Supplementary Activities

Reading

Read the book Deenie by Judy Blume (New York: Dell, 1973, paper). Deenie is a young girl who discovers that she has scoliosis. Write a brief composition on how Deenie's feelings about herself are affected by this condition. Make sure to describe what Deenie learns during the course of adjusting to her situation.

Resource Person

The best source for resource people is the population of your school and their families. There may be students or family members of students, or teachers in your school who have worn braces for scoliosis, and who would be willing to describe their experiences. It is interesting and helpful if a brace can be brought in and examined by students.



Scoliosis (Rear Views)

174

Fact Sheet #1.2**SIMPLE HOME TEST FOR THE EARLY DETECTION OF SCOLIOSIS**

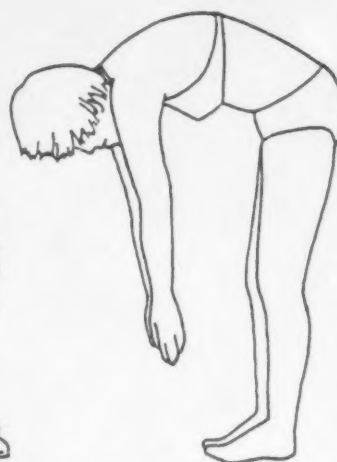
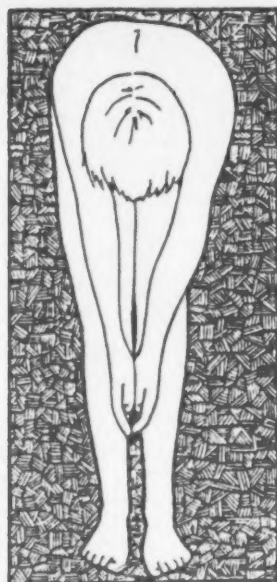
YES NO

1. ☐ ☐ Is one shoulder higher than the other?
2. ☐ ☐ Is one scapula (shoulder blade) more prominent than the other?
3. ☐ ☐ Does one hip seem higher or more prominent than the other?
4. ☐ ☐ Is there a greater distance between the arm and the body on one side than on the other, when the arms are hanging down loosely at the sides?
5. ☐ ☐ Does the child have a "swayback" (Lordosis)?
6. ☐ ☐ Does the child have "round shoulders" or "humpback" (Kyphosis)?
7. ☐ ☐ Is there a larger "crease" at one side of the waist than at the other side?
8. ☐ ☐ Does the child seem to "list" or lean to one side?

When you examine the child, have him bend forward with the arms hanging down loosely with the hands even and the palms touching each other at about the level of the knees. When in this position...

9. ☐ ☐ Is there a hump in the rib area?
10. ☐ ☐ Is there a hump in the lumbar region (near the waist)?

If you have ANY "yes" answers or if the child has a brother, sister, parent or other close relative with scoliosis, consult your family doctor or orthopaedist.



FORWARD BENDING POSITION FOR SCREENING

© 1979 S. A. Inc.

Taken from Scoliosis, The Scoliosis Association, Inc.

The Milwaukee Brace
(Fitted to a right thoracic-left lumbar curve)



Throat mold does not distract mandible; left axillary sling counteracts pressure of right thoracic "L" pad and centers neck ring on patient



Occipital pad fits closely to base of occiput; right "L" pad applied directly to ribs leading to apex of right thoracic curve; left lumbar pad applied directly to muscle bulge over apex of lumbar curve



Frank H. Netter, M.D.
© CIBA

Throat mold does not touch chin; lumbar lordosis reduced by forward tilt of pelvic girdle

Scoliosis Dr. Keim

Reg. No. 2171

© Copyright 1978 CIBA Pharmaceutical Company, Division of CIBA-GEIGY Corporation. Reprinted with permission from CLINICAL SYMPOSIA, illustrated by Frank H. Netter, M.D. All rights reserved.

LOVE, MARRIAGE and PARENTHOOD
for People with Physical Impairments

prepared by:

Shirley Cohen

with

Estelle Glasser
Claire Pasternack
Nancy Koehler

For the Teacher

This mini-unit was designed for use in high school health education courses. It may be treated as an expansion of the study of family life and sexuality.

Until recently the study of family life and sexuality did not deal with the handicapped. Handicapped people, particularly those with severe physical impairments, were thought of as poor creatures who were barred by their disabilities from experiencing love, sex, marriage or parenthood. This notion has died along with many other misconceptions about the handicapped.

Today persons with disabilities are demanding the right to live in the mainstream of society. They want to be able to participate in higher education; get jobs for which they are qualified; be able to use public transportation or a reasonable alternate mode of transportation; be able to enter and use public facilities or facilities serving the public; be able to obtain housing which meets their special needs. They also want to be seen as individuals capable of and interested in love, sexual relationships, marriage and parenthood. The myth of the asexual physically handicapped person, who is a combination of eternal child and holy innocent has been exploded. Paraplegic veterans coming home from Vietnam helped explode it. Young adults who became paraplegics, or even quadraplegics, as a result of automobile crashes and diving accidents helped explode it. Persons disabled by polio, spina bifida and multiple sclerosis who have had the courage to speak out about their needs and experiences have exploded this myth. Love relationships are not for the able-bodied only. Neither are sexual relationships. Sexual intercourse is possible for many paraplegics and quadraplegics. Even when it is not, there are other means of sexual expression available.

Can the disabled be good parents? Is it fair to their children? Can they safely care for infants and preschoolers? The answer seems to be "yes" in many cases.

This unit was written as four lessons. However, if all of the activities in it are pursued, it may take five class meetings to complete.

Additional Resources for the Teacher

The article "Still a Woman, Still a Man"* is included at the end of this unit to provide you, the teacher, with information which you may want to have in answering student questions about sexual experiences of the physically disabled.

You may also want to read one of the biographies listed under supplementary activities at the end of Lesson I.

*Bogle, J., & Shaul, S. "Still a Woman, Still a Man," Journal of Current Social Issues, 1979, 16(1), 39-41.

Lesson I

Theme: Physically disabled persons need love relationships.

Objectives:

- .Students will recognize the need of physically disabled persons for adult love relationships.
- .Students will be able to describe two attitudinal barriers which stand in the way of love relationships for adults with physical impairments.

Introducing the Lesson

Think of all of the couples you know who appear to have good love relationships (e.g., parents, older siblings, friends, neighbors). What is it that seems to make them work? What is it that the partners seem to like in each other? How important are common interests? Common values? Common styles of dealing with every day living tasks? If the students don't raise the topic of appearance, ask them how important this is. After they have had a chance to respond, make a statement such as the following: "There are some people whose appearance is different in some ways because they have physical impairments. We are going to look at what this means for the fulfillment of the basic need for love relationships in adulthood."

Alternate Activities

Select either A or B as the next activity. Activity A involves use of a film. Activity B is given in case it is not possible to obtain this film or if the teacher chooses not to use it. Some teachers may want to use both Activity A and part of Activity B.

Activity A

Obtain the film "I Am Not What You See,"* and show it to the class. This is a 27 minute color film in which a severely physically disabled woman is interviewed. The viewers come to see Sondra Diamond as an intelligent, sensitive person with the full range of human needs. Her appearance may, however, disturb some students (and teachers) for the first few minutes. Introduce the film as follows: "We are going to view a film about a severely disabled woman who is being interviewed about her life. As you are watching the film think about how this person is similar to or different from other adults you know (or from yourself) in her needs, her feelings and her goals."

After the film is over, lead a discussion of the students' reactions. Ask the students:

- (1) How did this film affect you?
- (2) How do you feel about Sondra Diamond?
- (3) In what ways is she like you and other people you know (in needs, feelings, goals)?
- (4) In what ways is she different (in needs, feelings, goals)?
- (5) In what ways is she realizing her potential?
- (6) In what ways does she feel unfulfilled?
(Cue: Does she feel the need for a love relationship?)
- (7) Do you think a love relationship is possible for Sondra Diamond? Why? (or why not?)
- (8) Who could love a person as disabled and disfigured as her?
(Could an able-bodied person love someone like Sondra Diamond?)

End this discussion with a statement like: "Sondra Diamond communicated a need for love, a need which she apparently had not been able to satisfy as an adult. In the past, most physically disabled persons were treated as if love relationships were out of the question for them. Many came to accept this view. Today the situation is changing. Physically disabled persons are beginning to seek out love relationships. They do not accept the view that sexual love is for the able-bodied only. They see marriage and parenthood as their right."

*Available for free loan within New York State from: Film Library--
SETRC, New York State Education Department, Education Building Annex,
Albany, NY 12234. Available for rental from: Filmmakers Library, Inc.,
133 East 58th Street, Suite 703A, New York, NY 10022 (\$40.00).

Activity B

Read the passage which follows to the class, after telling them that it comes from an autobiography written in 1942 by a woman who was physically impaired. She had a spinal curvature which resulted in a hump on her back and extremely small stature.

When we were all young there was much gay talk and speculation concerning the current love affairs and the probable sentimental fate of my brothers and sister and their friends, but nobody ever said, "When Katharine gets married," or, "Why hasn't Kitty got a beau yet?" or, "We must get a beau for you, Kitty." I lived inside my cage, close to the others, among them, touching them, laughing and talking with them; yet by an unspoken understanding it was taken for granted that I was not to have what was apparently considered the most important experience in grown-up life (Hathaway, K. The Little Locksmith. New York: Curtis, 1971. p. 162).

Ask the students the following questions:

- (1) Why didn't anyone in Katharine's family ever talk about her getting married or having a boyfriend? (They didn't expect anyone to perceive her as a possible love partner.)
- (2) What effect do you think this situation had on Katharine's image of herself? (She accepted the view that she should not expect love.)

After the students have had a chance to respond to question #2, tell them that you will read another passage which shows what did happen to Katherine. Then read the passage which follows.

I thought of sexual love as an honor that was too great for me--not too great for my understanding and my feeling, but much too great and too beautiful for the body in which I was doomed to live. I had heard people laugh and talk about grotesquely unbeautiful women who had the absurd effrontery to imagine that men were in love with them...In my secret meditations I pitied them because I understood, what nobody else could have guessed, how easily they could forget the cruel discrepancy between their desirous hearts and their own undesirableness....I had sworn

that I never for one instant would forget the fearful discrepancy in my own case...I never would be caught either pathetically or ridiculously imagining that anyone was or ever could be in love with me. (Hathaway, K. B. The Little Locksmith. New York: Curtis, 1971. pp. 59-60).

Lead a discussion of the passage with the students as follows:

- (1) Was the person who wrote this (Katharine Hathaway) right? Is it ridiculous for a person with a serious physical impairment to think that anyone could love her or him? (Cues: Can a person with a severe spinal curvature which left her with a hump on her back and caused her to be only about four feet tall [Katharine Hathaway's impairment] hope or expect a love relationship? Can a person who is a quadraplegic--paralyzed in all four limbs--hope for or expect a love relationship?)
- (2) Who might love a person with a severe physical impairment like Katharine Hathaway's? (Could a person who was not physically impaired love someone who was severely physically impaired?)
- (3) What might be the effect of Katharine Hathaway's feelings about herself on her actual chances of finding a love relationship? (She would probably be too afraid to seek such a relationship or to respond to someone else's overtures to her.)

Conclude the discussion of the passage with a statement to the effect that: "Katharine Hathaway felt herself unworthy of love because her body was misshapen. It is a view that was communicated to her by society, and that was largely accepted by physically impaired persons until recently. Today the situation is changing. Physically disabled people are beginning to seek out love relationships. They do not accept the view that sexual love is for the able-bodied only. They see marriage and parenthood as their right."

General Discussion

This activity will fit into the first class session on this unit if Activity B is used. If Activity A is used, the general discussion will have to be carried over to the next lesson.

Discussion Guide

Teacher Statements and Questions

1.

I had almost gone mad from loneliness, I had almost died of it, without anybody knowing and without myself knowing until long afterward what was the matter with me (Hathaway, op. cit., p. 178).

2. Let's examine some of the reasons for the loneliness, for the absence of love relationships, which many adults with physical impairments have experienced. Who can think of one such reason?

3. Who can think of others?

Notes to the Teacher

Read the passage which follows to the class.

(a) People with physical impairments were not perceived as possible love partners by the nondisabled population. They were treated as if love relationships were not appropriate for them, as if they were destined for another type of existence; or, they were not considered as possible love recipients because they were too different from the stereotyped image of a romantic partner.

(b) People with physical impairments had little opportunity to establish close relationships with nondisabled persons. Until recently they were cut off from the mainstream of life. They went to special schools or received home instruction. They had difficulty obtaining jobs. Many activities or programs were not accessible to them because of steps or other architectural barriers.

(c) Families of the disabled discouraged them from thinking about and pursuing possible love relationships with the nondisabled out of a desire to protect the disabled individual from being hurt.

(d) Love relationships between disabled persons were discouraged or even prohibited by families, professionals and caretakers, again reflecting the belief that love, sex and marriage were not appropriate for the disabled.

(e) People with physical impairments came to accept the view of themselves held by nondisabled, i.e., they came to see themselves as not fit for love relationships. Because they thought this way, they withdrew from trying to establish love relationships.

Concluding Statement: The picture is changing today. Physically disabled people are increasingly participating in the mainstream of life--in school, in work, in social activities. They are no longer accepting the idea that they were not meant for love, sex, marriage or parenthood. Still it will take some time for many nondisabled persons to adjust to this changing picture.

Discussion

Read the poem "Love Song" by Ron Whyte, after telling the students that the author of the poem is a playwright who is severely physically disabled. Ask the students to discuss how this poem affected them, i.e., how it made them feel; what they thought of it; why.

Love Song

Hold my hand
 If you dare to.
 Do not hold my right hand
 which at first glance
 looks to be like your own hand,
 with fingers/fingers four and thumb.
 Rather, grasp and hold my left hand,
 that thick thing
 that bends at the wrist
 into one long finger and
 what is that other shape,
 a thumb?
 or is it, perhaps,
 Stunted fingers grown
 together beneath a single
 finger nail?
 Hold my left hand,
 hold my right hand.
 I promise
 I too shall hold your hands with mine
 as best as I am able.

(Whyte, R. New Forms of Grace. Journal of Current Social Issues, 1978, 15(3), p. 62.)

Readings

Read one of the following biographies of a person with a serious physical impairment. Write a brief report describing four new facts which you learned in the book and how this new information affected you.

- (1) Eareckson, J. Joni. Grand Rapids, MI: Zondervan, 1976. (paper)
- (2) Hathaway, K. B. The Little Locksmith. New York: Curtis, 1971. (paper)
- (3) Valens, E. G. The Other Side of the Mountain. New York: Warner, 1975. (paper)
- (4) Valens, E. G. The Other Side of the Mountain--Part 2. New York: Warner, 1978. (paper)

Lesson II

Theme: Misconceptions and realities about the physically handicapped.

Objectives:

- .Students will be able to identify three common misconceptions of the physically handicapped.
- .Students will be able to list three major causes of physical disability, and describe the types of impairments they may involve.

Introducing the Lesson

This activity can be conducted as a class activity or as a small group activity. Before beginning the lesson make transparencies of the cartoons* at the end of this lesson (for class activity) or duplicate one set of them for each discussion group.

As a class activity proceed by showing cartoon #1 on the overhead projector. Ask the students what this cartoon was designed to communicate. After the message of the cartoon is identified, ask the students what misconception this cartoon contradicts or attacks.

If you prefer to conduct this activity in small groups, divide the class into discussion groups of 5 or 6 students. Ask each group to identify and list, for each cartoon, (a) What the message is and (b) What misconception about physically handicapped persons it contradicts. At the end of about 12-15 minutes bring the groups back together. Compare the responses of the different groups to each cartoon for areas of agreement and disagreement. Interpretations and information are provided below.

Cartoons 1a and 1b:

The message of both of these cartoons is that physically handicapped persons, and specifically persons who use wheelchairs, are interested in members of the opposite sex in sexual ways. This contradicts the misconception of the physically handicapped person as asexual.

*Cartoons "Reprinted with permission copyright 1979, ACCENT on Living, Inc."
 Taken from: Cheever, R. C., & Cheever, G. C. Laugh with Accent.
 Bloomington, IL: Accent on Living, 1975.

Cartoons 2a and 2b:

The message of these cartoons is that physically disabled people can accomplish much more than is generally believed and recognized. Cartoon 2a focuses on the independence and competence of the physically disabled. Cartoon 2b focuses on the potential of the physically handicapped for doing even extra-ordinary and adventurous things. Both of these cartoons contradict the misconception of the physically handicapped person as helpless and dependent.

Cartoons 3a and 3b:

These cartoons show the physically handicapped pursuing their right to use facilities serving the public. Cartoon 3a depicts militancy on the part of a physically handicapped individual in doing away with architectural barriers. Cartoon 3b depicts a less violent form of protest against architectural barriers. Both of these cartoons contradict the misconception of the physically handicapped as meek, docile and withdrawing (as eternal children or holy innocents).

Cartoon 4:

This cartoon does not contradict a myth about the physically handicapped. Rather it is a form of "black" humor. It's ironic message is: Here they give us access, (a ramp and the international symbol of access) access so that we can jump off. But the other side of that "black" humor message is: At least they recognize that we too can experience love affairs, some unsuccessful, like other people.

Some Facts about Physical Disability

For this activity you will need either a transparency of Fact Sheet #1 or copies of it for all of your students.

Discussion Guide

Teacher Statements and Questions

1. We have been talking as if all physical disabilities were equal and all involved the use of a wheelchair. There are about 12 million people who are physically disabled and their impairments range from very mild to extremely severe. Let's examine some of the different types and causes of physical impairments.
2. (After the description of cerebral palsy has been read.) What kinds of functional problems does cerebral palsy bring? (What does a person with cerebral palsy have difficulty doing?)
3. (After the description of spina bifida is read.) What kinds of functional problems might a person with spina bifida have?

Notes to the Teacher

Show the transparency of Fact Sheet #1 or distribute it to the students. Have one student read the description of cerebral palsy.

Problems may range from a very mild awkwardness in gait or slurring of speech, to an inability to walk, speak, control one's hands or maintain good head balance.

(If the question of mental retardation is raised in regard to persons with cerebral palsy, the teacher should state that at least 50% of persons with cerebral palsy have normal or higher intelligence. It is hard to measure the intelligence level of many individuals with cerebral palsy because they have no effective way of responding.)

It may result in paralysis of the lower part of the body, with inability to exert voluntary control over bowel and bladder movements. Some individuals with spina bifida walk with the aid of braces and crutches or a cane. Others use wheelchairs.

- (If a question is raised about how people with spina bifida can be integrated or accepted socially if they are incontinent, state that procedures have been established for bowel and bladder management, that include catheterization and the use of suppositories at regularly scheduled intervals. Accidents are rare when these procedures are implemented carefully.)
4. (After the description of spinal cord injuries is read.) What is paraplegia?
The paralysis of the legs and lower part of the body, resulting from injury or disease of the spinal cord at the level of the chest or lower.
 5. What is quadraplegia?
The paralysis of legs and arms, resulting from injury or disease involving the spinal cord at the level of the neck.
 6. What factors have led to a large increase in the population of paraplegics and quadraplegics?
The Vietnam war.
The larger number of cars being used.
Advances in medical science which keep more people with spinal cord injuries alive.
 7. The large increase in the number of persons becoming paraplegics or quadraplegics in young adulthood is probably responsible for some of the change in attitudes toward persons with disabilities occurring today. Why?
Because these are people who went to school in the mainstream, who held jobs, who were sometimes married. They have friends. Their minds are intact. They demanded the same rights as they had before, as well as some new ones.
 8. (After the description of spinal curvatures.) What kinds of functional problems might a person with a spinal curvature have?
In mild cases, only some difficulty in finding clothes which do not show up a hip which is slightly higher or a slight rounding of the back. In moderate cases, the wearing of a brace may prevent participation in some sports such as gymnastics or football, and may result in an awkwardness of gait. Social rejection because of the unusual body shape is probably the greatest problem.

- | | |
|---|---|
| <p>9. (After the description of polio is read.) Luckily, polio can now be completely controlled, but what did it do to the functioning of the children and young adults who contracted it in the 1950s and earlier?</p> | <p>Impairments range from muscular weakness in parts of the body to quadraplegia. Sometimes the breathing function was affected, and the person had to virtually live in an "iron lung," i.e., a machine which aided breathing. Today, portable respirators which are attached to wheelchairs allow the person to move about for a least part of the day.</p> |
| <p>10. There are other types of physically disabling conditions which are not on the fact sheet. Does anyone want to tell us about additional ones?</p> | <p>Other common physical impairments (or conditions leading to impairment) include rheumatoid arthritis, multiple sclerosis and muscular dystrophy.</p> |

Concluding Statement: We have just talked in the abstract about different types of physical impairments and the conditions leading to them. Now let's look at how a physical impairment affected the life of a real person.

Audio-Visual Presentation*

Show the following film:

MIMI (12 minutes, black and white, 1972)

A young woman with spina bifida talks as photographs of herself at different stages of life are shown. The film deals with strivings and the barriers to their fulfillment. (The young woman featured in the film became a mother in the mid 70s.)

Available for free loan within New York State from: Film Library-- SETRC, New York State Education Department, Education Building Annex, Albany, NY 12234. Available for rental at \$15.00 from: Billy Budd Films, 235 East 57th Street, New York, NY 10022.

In whatever time remains after the film, discuss it with a focus on what happened to Mimi's attempts at a normal love relationship.

*This film showing may have to be carried over to a third class meeting.

Alternate Films:

CRIP--TRIPS (16 minutes, black and white, 1977)

This film shows three individuals with severe physical disabilities who are pursuing independent life-styles. Work and love are part of the story presented. The film was produced by the Center for Independent Living, which is a self-help organization of people with severe disabilities. The intentionally jarring term "CRIP" is used to counter patronizing language and attitudes.

Available for rental at \$20.00 plus handling from: Canyon Cinema Co-Operative, 2325 3rd Street, Suite 338, San Francisco, CA 94107.

BEING (25 minutes, color, 1973)

This film, produced in Canada, shows a young paraplegic man beginning to try to relate to a young woman. (It is a prepared script using actors.)

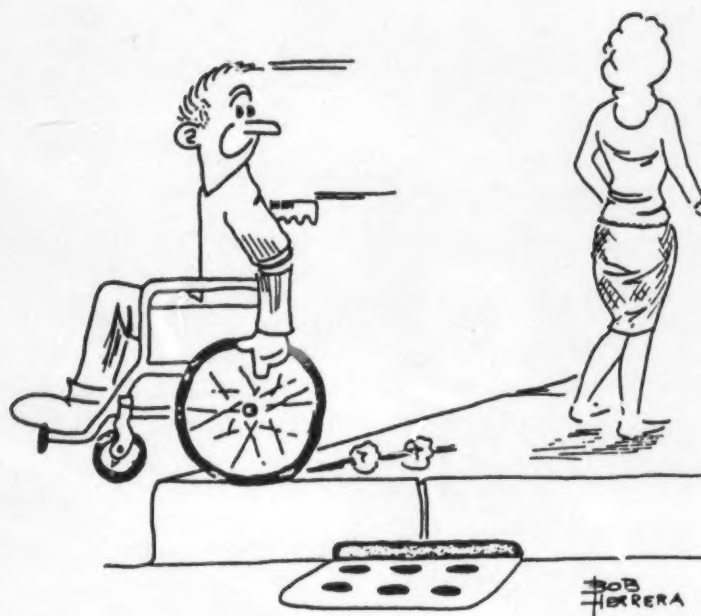
Available for free loan from: The President's Committee on Employment of the Handicapped, 1111 20th Street, N.W., Washington, DC 20210. Within New York State, also available for free loan from SETRC Film Library. (See address given on page 13.)

Fact Sheet #1

Some Major Types of Physical Impairment

1. Cerebral palsy--is a group of conditions caused by damage to the central nervous system either before, during or shortly after birth. The major characteristic is an inability to fully control the muscles. About 700,000 Americans have cerebral palsy.
2. Spina bifida--is the second most common birth defect. It involves a defect in the formation of the spine. In the most serious type of spina bifida, spinal nerves protrude through the opening in the spinal vertebrae.
3. Spinal cord injuries--may result in paraplegia or quadraplegia. Automobile accidents, sports-related accidents and gun shots are major causes of spinal cord damage.
4. Spinal curvatures--range from the hardly noticeable to those which hinder basic functions such as walking, digestion and breathing. Mild forms of scoliosis are very common among adolescents and adults. Kyphosis is an excessive rounding of the back which may appear as a hump on the back in severe cases.
5. Polio (poliomyelitis)--is a viral infection. It can be prevented by immunization today, but prior to 1960 it was a leading cause of paralysis.

Cartoon 1a



Reprinted with permission copyright 1979, ACCENT on Living, Inc.

Cartoon 1b



"And this one is for group therapy!"

Reprinted with permission copyright 1979, ACCENT on Living, Inc.

Cartoon 2a



"Her house is spotless—I wonder who does her housework?"

Reprinted with permission copyright 1979, ACCENT on Living, Inc.

Cartoon 2b



Reprinted with permission copyright 1979, ACCENT on Living, Inc.

Cartoon 3a



"I widened your doorway so that it could
accommodate my wheelchair!"

Reprinted with permission copyright 1979, ACCENT on Living, Inc.

Cartoon 3b



Reprinted with permission copyright 1979, ACCENT on Living, Inc.

Cartoon 4



Reprinted with permission copyright 1979, ACCENT on Living, Inc.

Lesson III

Theme: Physical disabilities need not stand in the way of sex, marriage and parenthood.

Objectives:

- .Students will be able to describe why an able-bodied person might marry a severely physically impaired individual.
- .Students will be able to describe some of the adjustments that a marriage between an able-bodied and a physically impaired person might entail.

Introducing the Lesson

Read the following vignette to the class.

Linda and Bob have been dating regularly for a long time. Bob uses a wheelchair. One of Linda's friends says to her, "Linda, I think you are a wonderful person for dating Bob for so long. I really admire you. But you're not going to marry him, are you? Do you really want to live the rest of your life without sex?" (Free Wheeling. Washington, DC: Regional Rehabilitation Institute on Attitudinal, Legal and Leisure Barriers, 1978, p. 11.)

Ask the students what assumptions lie behind Linda's friend's statements, and what is wrong with these assumptions. (Linda's friend assumed that Linda was dating Bob out of kindness. Linda was probably dating him because she liked him. Linda's friend assumed that a person who needs to use a wheelchair can't have sexual relations. This is often not true.)

Read the following quote from a disabled individual.

I used to think I could never have sex. I was twenty-three when I found out differently. I always thought you had to be able to walk to have sex. (Bogle, J., & Shaul, S. Still a Woman, Still a Man. Journal of Current Social Issues, 1979, 16(1), p. 39.)

Say to the students: Let's look at some examples of real people with physical impairments and how they dealt with love, sex, marriage and parenthood.

Case Studies

Divide the class into small groups. Duplicate enough copies of the "case studies" at the end of this lesson, so that everyone will have a copy of each. Distribute the case studies and give the following directions to the groups.

- (1) Read the case studies.
- (2) Compare the life styles established by the three individuals in regard to love, sex, marriage and parenthood.

After about 15 minutes bring the groups together, and have them summarize and compare their conclusions. You may want to answer student questions or enrich the discussion by using the passages which follow, based on an interview of couples in which one member was physically disabled.*

Dr. Cole: ...Why does an attractive, able-bodied girl like you decide she wants to hook up with a guy who's in a wheelchair?

LeDonna: I never did want to marry anybody in a wheelchair. In fact, I ran from it for about a year--until he finally caught me! I guess I was just being overly cautious. I had known only one other person in a chair, and I hadn't had enough exposure to that person to know about the little everyday problems that arose in their lives. I think I had a stereotyped picture of a person in a wheelchair, too. I'd see somebody in a chair going across the street, and I'd think, "That poor soul; he is in a chair for the rest of his life. And his life is shot." This is the way I thought it was. And I was just so wrong.

*"Paraplegics Discuss Their Sexual Problems," reprinted from Proceedings of the "Conference Continuing Education in the Treatment of Spinal Cord Injuries-11," June 28-29, 1972, Milwaukee, Wisconsin.

LeDonna
(continued)

I had gone through a previous marriage. I had been married seven years, and it had been a disaster. No way was I now going to tie myself down to somebody in a wheelchair. But I finally got to know Ed as a person, and I completely forgot about the chair. In fact, sometimes he's sitting on the couch, and he'll say, "Well, let's go if we're going out for the evening. Will you get my chair, please?" And I've completely forgotten about the chair. I think it was his own self-confidence that turned me on from the beginning. I learned more about life in general as a result of his own attitude about himself than I had learned anywhere else.

Bonnie:

When I used to think about the kind of guy I wanted to marry and about the guys I was dating, I had a very strong idea of what I wanted in a man. I had thought about it pretty much, which is one of the advantages of not marrying at 19. I knew I wanted someone that was intelligent and aggressive, someone who had an education compatible with mine, and someone who had similar interests. I found that person; he just happened to be in a wheelchair. After certain things were discussed, this was perfectly acceptable to me.

Case Study #1

Joni*

Joni Eareckson became a quadraplegic at age 17 as a result of a diving accident. When she realized that she would never regain control of her hands she wrote her boyfriend the following letter:

For some reason, God has chosen not to answer our prayers. Dickie, I'll never be able to use my hands. That means I'll always be dependent and helpless. I can never be a wife. I know you love me as I love you. Yet, God must have something else in mind for us. Let's continue to be friends, Dickie. But I want you to be free to choose other relationships. Date other girls and look for God to lead you to the right one for you for marriage. I can never be that woman. I'm sorry, Dickie, but I can never ask you to be part of such a hopeless relationship. Let's continue our relationship based on friendship.

Joni felt she had no right to marry because she could not care for a husband and express her love fully as a woman. In spite of this belief she developed a loving relationship with another man. When the relationship failed, Joni came to see that failure as having been inevitable. She felt she had been unrealistic in expecting it to work. She turned to God and religion to find meaning in her life.

Joni had acquired considerable skill in drawing since her accident. The drawing instrument was held in her mouth. Her life is now filled with her art and her work in the church.

*Based on the autobiography Joni by J. Eareckson.
(Grand Rapids, MI: Zondervan, 1976.)

Case Study #2

Jill Kinmont*

Jill Kinmont became a quadraplegic at age 18 as a result of a skiing accident. The accident and paralysis ended the romance she had been involved in when she was able-bodied. After her physical condition was stabilized Jill examined her alternatives and decided to go to college. Eventually she became a remedial reading teacher.

Jill did not rule out the possibility of marriage and continued to relate to men. One of her old acquaintances became close to her and began to talk about marriage. He was killed in an airplane crash.

Eighteen years after she became a quadraplegic Jill met John Boothe. They became friends and began to go everywhere together in his pick-up truck. After three years of hesitation and doubts, and after taking a long trip together as a trial, Jill agreed to marry John. Sex is a part of their life even though Jill has no feeling below her neck. She could become pregnant, but her life would be seriously endangered by pregnancy. Children, therefore, are only in her life as her pupils.

*Based on the books The Other Side of the Mountain and The Other Side of the Mountain--Part 2. See page 8 for full references.

Case Study #3

Ed Roberts*

Ed Roberts was appointed Director of the California Department of Rehabilitation in 1975. He has been a quadraplegic since the age of 14, when he was stricken by polio. He sits in a motorized wheelchair to which a portable respirator is attached.

Ed Roberts fought his way to a high school diploma; fought his way into college at a time when colleges didn't want to accept the severely disabled; eventually taught political science at that same college. He became Director of the Center for Independent Living in Berkeley, California, which became a model for self-help groups of severely disabled people around the country.

Ed Roberts had been told that he could not have a relationship with a woman. He accepted this as a fact for a few years and thought of himself as ugly, as less than whole. Then he began to challenge this assumption.

Today Ed Roberts is married. His wife is able-bodied. They met when she was his (occupational) therapist at a hospital. They are the parents of a baby boy. Ed Roberts feels that he will be a good father.

*Based on the article "A Different Way of Touching" by L. B. Jaffee. San Francisco Sunday Examiner and Chronicle, July 23, 1978.

Supplementary ActivitiesFilm

LIKE OTHER PEOPLE (37 minutes, color)

This beautiful film tells the story of two adults severely disabled by cerebral palsy who want to be able to love and marry. It shows them in various settings and includes scenes of intimate activities such as bathing each other and embracing. It will take the audience a few minutes to get used to the speech of the two main characters.

Available for free loan from: The President's Committee on Employment of the Handicapped, 111 20th Street, N.W., Washington, DC 20210.

Available for rental from: Perennial Education, Inc., 477 Roger Williams, P. O. 855, Ravinia, Highland Park, IL 60036. Rental price: \$40.00.

Lesson IV

Theme: The disabled as parents.

Objectives:

- .Students will recognize that disabled persons can be effective parents.
- .Students will be able to describe special techniques used by physically disabled parents and deaf parents in caring for their children.

Introducing the Lesson

Before beginning this lesson make transparencies of the scripts of the United Cerebral Palsy Association's 1979 Campaign TV Spots, or duplicate copies of the Scripts for distribution to the students.

Say to the class: "Has anyone seen public service announcements on television about persons with handicaps?" If any of the students respond affirmatively, ask them to describe the public service spots. One or more students may refer to announcements showing physically disabled persons as parents. If not, ask the students whether they have seen The United Cerebral Palsy spots showing a couple with cerebral palsy and two young children. Then state: "Some people feel uncomfortable with the idea of severely disabled individuals having children. Why might some people feel this way? Do you?" (Reasons for discomfort with the concept of disabled persons as parents may include: Disabled people being viewed as less than fully human, and disabled people being viewed as helpless.) "Let's examine the problems and realities of different types of disabled persons being parents."

Discussion Guide

Teacher Statements and Questions

1. Kathy and Ed Lewis are featured in campaign television spots of United Cerebral Palsy Associations. Both of these individuals have cerebral palsy. They are shown in the television spots with their two young children Vickie and Krystal. Let's read the scripts of some of these television spots.
2. What is the message that this spot is trying to get across (aside from fund raising)?
3. Kathy bathing her baby is a picture shown in each of the spots we will examine. Why was this considered so important that it was included in all three spots?
4. Turn to the second television spot. What idea is in this script that is not so specifically highlighted in the first one?
5. Turn to the third television spot. What new idea is introduced here?

Notes to the Teacher

Show the scripts of the UCPA 1979 TV spots on the overhead projector or have the students examine their copies. Have a student read the narrator's part of each script while the other students visualize the images indicated in the left hand column. Then ask the students to focus on the first spot. (Put the first spot back on the overhead projector.)

- (a) That disabled people may be capable.
- (b) That disabled people have a right to parenthood if they can carry out the responsibilities it implies.
- (c) Persons with cerebral palsy know their abilities and are capable of deciding whether they can handle the responsibilities of parenthood.

Because people will question whether individuals with cerebral palsy, which involves poor muscle control, can care for a baby safely. Bathing is one of the potentially most dangerous activities for a baby. This spot is saying that Kathy has the ability to do this safely, and that her judgment on this matter can be trusted.

- (a) That there is joy in this family.
- (b) That handicapped people are entitled to joy.
- (a) That handicapped people have something to give.
- (b) That some people will not be happy with the Lewis' decision to have children, but that this is because they don't really understand.

6. What effect do you think these spot announcements have had?

7. What actual difficulties might some physically disabled parents have in raising children?

8. How can these problems be handled?

At the very least they exposed some people for the first time to the idea that physically handicapped individuals may make competent parents and therefore have a right to experience parenthood.

Examples

(a) If the mother (or main caregiving parent) is in a wheelchair, she (he) may have trouble implementing some of the care of an infant, e.g., picking the baby up from the crib, filling the baby's bath.

(b) If the mother has very poor hand control she may have difficulty with aspects of dressing the baby or handling a squirming baby.

(c) Parents who cannot move fast or move up and down stairs may have trouble with toddlers who get to places they shouldn't.

(a) Not all disabled persons are equipped to be parents. In some cases parenthood is not advisable because the potential parents wouldn't be able to cope with it. But the general coping ability of the potential parents may be as important a factor as their disabilities, because resourceful couples that cope well in general, find ways of dealing with the special problems involved in being a disabled parent.

(b) Adapted furniture and equipment are sometimes needed.

(c) Friends, neighbors and relatives may be needed to help from time to time. Husbands may become more involved in the child care when the wife is disabled.

(d) Verbal guidance and control are often substituted for direct physical care and control.

9. Let's look at some specific questions and one paraplegic mother's way of dealing with these questions. How can a disabled parent "discipline" a young child?

Read the passage below from "Tips on Raising Children from a Wheelchair" by V. M. Dunn. Accent on Living, 1978, 22(4), 78-83.

The most crucial battle of wits came when Cheryl was about 18 months old. She couldn't resist the urge to explore an upstairs door which had inadvertently been left open and headed upstairs as fast as she could go, "heedless to my protest as I sat helplessly at the bottom."

"How frustrated I felt as she turned around and sat on the very top step and with a mischievous grin taunted, 'You can't get me, you can't get me!'"

Silently I breathed a prayer, then calmly, with as much authority as I could muster, I said, 'Don't move, stay right where you are until I tell you to move.' Each time she started to budge either up or down, I demanded, 'No, don't you move.'

She sat at the top of the stairs with me at the bottom for what seemed like hours, then started to cry and call, 'Please Mommy, I come down?' 'No, not yet!' I forced myself to say. Finally I allowed her to come down, and she crawled up on my knee as I told her she must never go up there again. The lesson was successful ..." (pp. 81-82).

10. What did that example illustrate?
11. What characteristic may children of physically disabled parents develop to a greater extent than many other children?

The use of verbal authority (psychological control) as a substitute for physical control.

Independence and self-reliance.

Read the excerpts below (Dunn, op. cit., p.82).

"Tying Cheryl's laces meant she had to climb upon my lap or hold her foot up so I could reach it. Consequently, she was eager for tying lessons. By age 2½ she could put on her snowboots and snowsuit, needing help only with zippers... By about age five she was washing her own hair in the bathtub."

Concluding Statement: Whether disabled persons make good parents seems to depend pretty much on the same factors as whether anyone makes a good parent--Is the marriage a good one? Do the parents cope well in general? Are they willing to undertake the special demands and responsibilities of parenthood?

Supplementary Activities

Discussion

Extend the discussion of parenthood with a focus on the special problems with which deaf parents must cope. Specifically:

- (1) How do deaf parents deal with not being able to hear their infants crying or their young children's calls for help? (There are special devices which are sound activated so that when the baby cries a light flashes in the parents' room. Also, deaf parents do more visual checking on their infants and keep closer track of their toddlers.)
- (2) How do deaf parents of hearing babies teach their children to speak? (By making sure that a hearing person, or persons, speaks to the young child on a daily basis. Relatives and neighbors can usually be enlisted in speaking to a young child for a few minutes a day, if both parents are deaf. Preschool programs can supplement this stimulation.)

Speaker

Invite a disabled person who is a parent to discuss his/her personal experiences as a parent. Ask the speaker to describe both the difficulties and the adaptations used in carrying out this role.

UNITED CEREBRAL PALSY ASSOCIATIONS--
 1979 CAMPAIGN TV SPOTS--
 20 SECONDS

NO. 1

PICTURE

KATHY BATHING BABY

DISSOLVE TO ED WITH VICKIE ON LAP

DISSOLVE TO DINING AREA, KATHY
 FEEDING BABY

FREEZE FRAME SUPER TITLE
 GIVE TO UNITED CEREBRAL PALSY

SOUND

Kathy and Ed Lewis knew their abilities
 outweighed their disabilities. That is
 why they chose to exercise their right
 to experience life to the fullest and raise
 a family. United Cerebral Palsy believes
 in helping to secure that right and all the
 other rights of the handicapped. Show
 that you believe in it too.

--10 SECONDS

LEWIS FAMILY ON COUCH

VICKIE REACHES OVER TO REPLACE
 BABY'S BOTTLE.

FREEZE ON THIS SUPER TITLE
 GIVE TO UNITED CEREBRAL PALSY

Kathy and Ed Lewis have the right to
 live life to the fullest. United Cerebral
 Palsy is around to secure all the rights
 of the handicapped.

UNITED CEREBRAL PALSY ASSOCIATIONS--
1979 CAMPAIGN TV SPOTS--
30 SECONDS

NO. 2

PICTURE

KATHY BATHING BABY

CLOSEUP OF VICKIE
CLOSEUP OF KATHY

FAMILY EATING IN DINING AREA

CUT TO FAMILY ON COUCH

CLOSEUP VICKIE SHRUGGING

FREEZE FRAME SUPER TITLE
GIVE TO UNITED CEREBRAL PALSY

SOUND

(Narrator) Krystal Lewis, age 3½

months is a joy to her mother--and

so is her sister Vickie. Kathy and Ed

Lewis gave a lot of thought to their

decision to raise a family--and they

obviously feel they did the right thing.

They also feel the handicapped have

every right to experience life to the

fullest. One reason United Cerebral

Palsy is around is to help secure that

right and all the other rights of the

handicapped. Help keep them around.

UNITED CEREBRAL PALSY ASSOCIATIONS--
 1979 CAMPAIGN TV SPOTS--
 60 SECONDS

NO. 3

PICTURE

KATHY LEWIS FACING CAMERA

CUT TO MRS. LEWIS AND DAUGHTER
 VICKIE

CUT TO KATHY BATHING BABY

LEWIS FAMILY SEATED ON COUCH

CLOSEUP [CU] OF ED LEWIS DAUGHTER
 VICKIE ON HIS LAP

FREEZE FRAME SUPER TITLE
 GIVE TO UNITED CEREBRAL PALSY

SOUND

(Mother) We gave it a lot of thought
 before we had Vickie. We knew we had
 adjusted very well to each other--and
 we wanted to share it with somebody
 else. So we decided to raise a family --

(Narrator) There are people who
 question Kathy and Ed Lewis' decision
 to raise a family--but, as Kathy says
 --It's probably because they are not
 ready to accept something different--
 people with handicaps are not supposed
 to stand on the sidelines. They have
 every right to experience life to the
 fullest...its setbacks...its pain...its
 triumphs and most especially its joys.
 UCP believes in these rights and spends
 a lot of its time securing them. With
 your help they can do a lot more.

Still a Woman, Still a Man

All of the quotes in this article are from interviews with disabled people.

It is paradoxical that disabled people have a great deal to teach the rest of us about sexuality. As an able-bodied culture, we have overtly and covertly denied the sexuality of physically and sensorially handicapped people. In an effort to protect them from the pain and frustration of sexual involvements, we have encouraged them to think of themselves as asexual or incapable of sexual expression. The comments of disabled people reflect this attitude.

It's like you lose your womanliness when you become disabled. Someone said to me, You were such a beautiful woman. People seemed to think—and I believed—that no one would ever want to be close to me again.

I used to think I could never have sex. I was twenty-three when I found out differently. I always thought you had to be able to walk to have sex.

In the face of this process, disabled people continue to involve themselves in sexual relationships and sometimes come closer to realizing intimacy than the nondisabled majority. Just as people who have been enslaved can speak knowingly of freedom, so disabled people who have been "desexualized" may offer a profound lesson about the dimensions of human sexuality.

There are many reasons why we have found it necessary to deny sexuality in those who are disabled. Perhaps the foremost reason is our own ignorance and fear about disability and its impact on sexual function. If we think sex requires physical agility, sensation, health, stamina and certain desirability criteria, then it may indeed be difficult

to imagine a disabled person as a sexual person. A typical spinal cord injured man is unable to move his legs, occasionally has erections but cannot ejaculate, and generally looks different from other men. A blind woman does not use typical facial language and may ambulate with less grace as she explores obstacles in her path. Because most of us have had so few opportunities to know disabled people, our curiosity and apprehension about them is overwhelming. We fantasize what it must be like to be in their bodies and assume, "No one could ever be attracted to me if I looked like that." In defending ourselves, we set them apart by declaring them non-sexual. The real tragedy occurs when disabled people start internalizing their non-sexual label and behaving accordingly. A vicious cycle begins.

I used to have what I thought was a pretty neat body before the fire. But now when I go to a store, I come out tremendously depressed because there's clothes and dresses that I want to buy. But if I wore them, the sight of my scars would shock everybody. I'm very conscious of not what I want anymore, but the way I'm going to affect somebody else. I've had too many people say to me too many things.

Unlike a temporary weight gain or broken limb, this physical reality is permanent and a constant reminder that they will never look or function like other people.

It seems that we continue to have exaggerated fears about the less physically perfect members of society reproducing, and prejudicially believe that "cripples will breed cripples." This again is born of an ignorance which

Jane Bogle and Susan Shaul

208

does not allow discrimination between those disabilities which are genetically transmitted and those which are not.

Even after being told I had broken my back in a car accident, one girl I was dating actually told me she thought I shouldn't have children because, "Kids should be able to run." When I finally figured out her logic—or lack of it—I was amazed. I couldn't believe it.

This then becomes additional reason to believe that disabled people really should not be engaging in sexual activity. The facts are that most disabilities are not hereditary and that more and more disabled people are choosing to have children and are making fine parents.

Despite these obstacles, many disabled people come to understand that disability does not preclude attractiveness, and that sexual desirability is not inextricably linked to a standard of physical beauty. Herein lies a lesson for the rest of us: a person's sexuality and sexual attractiveness need not be dependent on how he or she looks or how functional his or her body might be.

Right after my stroke I was—quote—crippled. Then I discovered I was still a woman. I knew I had things to offer other than a limp, a brace, and a sore arm. I've become more aware of the beauty within myself and in relating to others.

Often such self-acceptance is nurtured by a partner's acceptance:

When we're making love and I see her hands on my body—on the parts of me I can't feel anymore—it somehow

Jane Bogle has a Masters in Public Affairs from the University of Washington and is a consultant and trainer specializing in management. Jane has been disabled from infancy with scoliosis and partial paralysis.

Susan Shaul is a doctoral student in educational psychology at the University of Washington, and a consultant and trainer in women's health care and health education issues.

209

makes me whole again. If she can still love me, I suppose I can slowly learn to care about myself again.

This different awareness of what makes a person attractive is a powerful insight as it elevates loving to where it should be: an acceptance of the way a person is, regardless of looks or abilities. This acceptance is a natural and essential component of love and sexuality.

Even if we acknowledge disabled people as fully participating sexual people, our curiosity remains. We wonder, "How does a man who cannot ejaculate have sex?" "What sexual positions work for people who are paralyzed?" "Do you have more sensation if you can't see?" It is true that disability can have a significant effect on sexual function. For instance, people who have sustained spinal cord injuries may have lost all genital sensation. Spasticity associated with cerebral palsy may make intercourse impossible. People who have rheumatoid arthritis may experience extreme pain with movement. Because these and many other physical limitations may preclude traditional penile-vaginal, male-superior intercourse, disabled people have been forced to explore a much fuller spectrum of sexual options and awareness than most of us ever consider.

Sometimes we just lie in bed. Maybe I'll rub his back, maybe he'll rub mine. Then maybe we'll kiss for a while or just lie there and talk. Somehow it all seems sexual. It seems like we're making love the whole time, even though we don't happen to have intercourse in a traditional sense. The way we are together is just tremendously satisfying.

This couple is somewhat unusual in their physical inability to have intercourse, but their interaction illustrates very well that sexual expression can be quiet caressing as well as acrobatic multi-orgasms. It is this breadth of sexual experience which is important for all people, disabled or not.

Before my accident, we had sex quickly in what I suppose you'd call a "traditional way." There wasn't much to it for me. Strangely enough, now it's so much better. We need to take more time with each other, experiment, talk more.

When considering the physiological impact of disability, it is also interesting to note that the sexual implications seem to reflect the different sexual roles and expectations we have of men and women in general. For example, virtually all professional attention, until recently, has focused on the physically disabled male, in view of the fact that he seems to be faced with a greater sex role discontinuity than disabled women. He may have difficulty maintaining erections and ejaculating, his physical strength and agility has been impaired, his earning capacity may be compromised, and, in short, he may no longer be able to fulfill the traditional role expectations we have for men in our culture.

Disabled women, on the other hand, are usually able to fulfill a traditional sex role of wife and mother. In order to be a satisfactory sexual partner, they need only to "just lie there" to achieve the passive role stereotypically ascribed to women. Disability does not usually affect fertility, so disabled women can also continue to fill the motherhood role. Thus, our assumption is that the sexual implications of disability for

women are negligible. Because of this belief, there has been virtually no professional consideration of her sexual needs or problems beyond her ability to be a satisfactory and fertile partner.

On the surface, therefore, disability does imply greater disparity with the male sex role than the female role. However, a closer look reveals that the sexual impact for women is also significant. Consider the following. Statistics indicate the divorce rate for disabled women is higher than for disabled men, suggesting that disability is not so readily integrated into the traditional wife and mother role. Many congenitally disabled women report that their parents programmed them to be "super career women" in the belief that they would never be considered marriage material. And in a culture which evaluates women more stringently than men in terms of their physical appearance, disabled women are at an even greater disadvantage.

However, living well with a disability involves some transcendence of the traditional male and female role to a more comfortable (and perhaps more androgynous) role which accommodates the realities of disability.

I think as a woman you're not aggressive in a sexual relationship to start with and you wait for the man to make all the moves. But if you're handicapped, I think you have to overcome that. You have to be the aggressive one. It's your satisfaction as well as the other person's that's important, so I say, go after it. There are men out there who can be very sensitive to a disabled woman. In fact there are some who can gain a better perspective on themselves by being able to have a sexual relationship with a disabled woman. It just takes a little guts to try at first.

Disabled women may not compete well in the beauty market, but may have a strength and independence that is decidedly feminine and attractive. Disabled men may indeed be more physically dependent, but still masculine and valuable as human beings. Often, the relationships of disabled people demonstrate a unique kind of symbiosis.

Like most other couples, we do things for one another. My husband (who has multiple sclerosis) needs help transferring, or reaching something, and he can't help with much stuff around the house. And that is an inconvenience. But he has more time now to help me with my studies and is the best friend any person could ever hope for. I may be silly, but to me that's worth a lot.

Too often, we have assumed that disabled people are much more dependent than people who do not live with disability. Dependency implies childishness and, certainly, children or those persons we have to take physical care of are not considered sexual. If an individual needs help transferring in or out of his chair, we ironically label that person as more dependent than someone who is emotionally dependent and unable to make a simple decision about what to do tomorrow. Interestingly, we associate the negative aspects of dependence with physical rather than emotional dependence, which is where the emphasis more appropriately belongs.

Disability does demand cooperation. If arthritis affects a woman's hands, her partner may need to insert a diaphragm or check for IUD strings. If either partner is hearing-impaired, they may need to develop manual or tactile signs for "a little lower, please." One man, paralyzed at age thirty from back surgery said,

Everyone has to learn what they can do and what they can't do. And then work with what they've got. In a couple, at least one of you has to keep trying when the other is ready to give up.

Communication is therefore essential, too, about what he or she can feel or do.

I have very patchy sensation from my accident. Once I can remember we were making love and I knew his hand was on my body, but I couldn't feel it. I reached for his hand and suddenly

when I found it I was crying. I cried and cried. I wanted so much to be able to feel him all over, like before. But since then I've had some testing to help us learn what I can feel and where, and that's helped our love-making tremendously. And we talk—both of us—about what feels good.

For people whose disability affects elimination processes by virtue of paralysis or surgery, it is essential to attain some degree of self-acceptance before expecting others to do so. Many have tremendous difficulty, but some develop a realistic, natural attitude towards their bodies' functioning and are able to communicate with others about it in a straightforward way.

At first, I thought I would literally die when a partner needed to see my catheter. I was convinced he would just take off or I'd say something stupid or he would lose his erection or something. And the first few times were miserable, with all the worrying. But now, I warn him before we ever get into the bedroom, tell him what it will look like, what usually happens, everything. Then there's no surprises. Though I must admit that sometimes I just get a feel about someone—that he can handle it—and I'm almost always right.

In the midst of this inconvenience and awkwardness is a reminder for the rest of us that sexuality is a natural bodily process, and needs to be integrated into our lives as such.

In conclusion, it can be seen that in many ways and for long periods of time disabled people have been denied sexual expression and have too often considered themselves asexual. Still, in the face of this, they may epitomize the real struggles society faces regarding sexuality today. Do people need to be beautiful to be loving? Is sexuality a story-book scene or a natural expression of two people caring sincerely about one another? Do sexual acrobatics mean more than simple strokes of affection? The degree to which we, as a society, exclude disabled people from having sexual thoughts and actions is the degree to which we clutch a restricted concept of sexuality and reproduction. That conceptualization hurts all of us because it leaves us vulnerable to aging, surgery, and other always unpredictable acts of fate. One woman summed it up:

In a way, I suppose, I'm lucky. I know that my partner loves me just the way I am, with leaky catheter and bum legs. It took a long time to believe that, but now I do. But I can tell from talking to people who aren't disabled that they are never sure just what might come along that will make them less "marketable." It seems a shame to me that people would think their beauty has so much to do with how they look. ■